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By A. E. VAN VOOT

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ASTOUNDING

SCIENCE-FICTION

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Contents for May, 1942, Vol. XXIX, No. 3

John W. Campbell, Jr., Editor, Catherine Tarrant, Asst. Editor

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"OIL IS AMMUNITION"

The fact that fuel oil is rather handy stuff to have around if you want naval vessels to operate, and that gasoline—preferably one-hundred-plus octane gasoline—is more than desirable if you want planes to stay aloft is fairly obvious. But the men who cooked up that slogan "Oil is ammunition" may well have been thinking of it in a less known, but more literal sense.

In the last war, the Allies were hard pressed for adequate supplies of toluene, the essential basis for the manufacture of trinitrotoluene, and for the long list of benzene-type compounds that formed the starting point of munitions manufacture. Picric acid, the high explosive with the curious history of having been used for more than a century as a yellow dye before anybody even knew it *would* explode, depends on benzene-ring raw materials. In 1917-18, the only commercial source of the quantities needed was the destructive distillation of coal—coal-tar products, they were, and badly needed ones. There simply wasn't enough, stretch the production as we would.

This time the whole story is different. The petroleum chemists have had a quarter of a century to study their profession, to develop methods, and to work out production techniques. Germans have long been famed as chemists; they have a tremendous reputation. Unfortunately for Herr Schickelgruber, reputations do not impress chemical molecules. In human affairs, a big reputation can hang on after the justification is gone, or after it has been reduced in scope to a very narrow specialization. The German chemists are still pretty good at making fancy dyestuffs. But nobody, anywhere, can begin to compete with American petroleum chemists. American general chemistry has not quite the same degree of lead—America had more petroleum business to support chemists than all the rest of the world combined—but in nearly all fields we have a definite lead.

But those petroleum chemists have left all others sweating far behind. They're the men that worked out the techniques of splitting the big, heavy oil molecules down into little chips, swirling the chips around a bit, and then sticking them back together in new and far more useful ways. They invented the techniques that make one-hundred-octane gasoline a commercial product. They've taken the broken chips and reassembled them into everything from synthetic rubber to synthetic plastics to pure foodstuffs. (Commercial citric acid, the stock-in-trade of church picnics and circus lemonade, it being the flavor-acid of lemons, is made by a trick oxidation of a petroleum product. They

can make a high-grade vinegar by another oxidation of another petroleum fraction. They can, and have, produced a nourishing salad oil—not the non-fattening, mineral-oil kind, but a decidedly fattening type. They can, and have, produced trick fats not found in nature that diabetic patients can eat more safely.)

But they have also produced, and are producing, toluene, benzene, the whole benzene family and its oxidation products by special cracking-and-reassembling processes worked on petroleum molecules. There's no visible limit to the supply of toluene for TNT this time.

Last time, too, they had a lot of trouble with the supply of solvents necessary for TNT production. TNT is physically rather similar to a synthetic plastic; it's molded and handled in solvents. Our chemists in 1917-18 developed a fermentation process that produced acetone and butyl alcohol from corn. (The huge supplies of those solvents left after the war led directly to the production of today's lacquers and indirectly to a greater use and production of plastics.) That trick helped a lot, though it cut into corn-hog production.

But the petroleum chemist just needs to change the valves on the big cracking plants, readjust his catalysts and his temperatures, and presto! instead of automobile gasoline, out come acetone, or heavy alcohols. All the research has been done during those twenty-five years; it just needs a change-over of production.

Plasticizers that make the synthetic plastics mold smoothly come from petroleum now, relieving the pressure on the supply of coal tar. Coal tar is produced by coking coal; the coal is produced by mining, and the miners that do that job need experience and training. You can't just say "Ten times as much coal tar this month, please," and get it. But oil production can be increased by simply letting the wells flow a bit faster.

You can't cut the coal consumption of vital industries very much; iron and copper and power for aluminum and magnesium and to turn the lathes must be maintained and increased, not cut down. But the automobiles that, in their millions, drank gasoline in rivers can be eased up appreciably.

Those millions, by the way, mount up. If twenty million automobiles save one gallon per month apiece, that's two hundred forty million gallons a year. And that, properly converted to toluene in the tri-nitro form, would be an excellent sort of medicine to cure the totalitarian tinge of parts of this planet.

The Editor.

7

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ASYLUM

By A. E. van Vogt

● Wherein is presented a lovely notion—that we live on a reservation, watched over by morons, since meeting normal members of the Watcher's race would be fatal—

Illustrated by Schneeman

I.

Indecision was dark in the man's thoughts as he walked across the spaceship control room to the cot where the woman lay so taut and so still. He bent over her; he said in his deep voice:

"We're slowing down, Merla."

No answer, no movement, not a quiver in her delicate, abnormally blanched cheeks. Her fine nostrils dilated ever so slightly with each measured breath. That was all.

The Dreegh lifted her arm, then let it go. It dropped to her lap like a piece of lifeless wood, and her body remained rigid and unnatural. Care-

fully, he put his fingers to one eye, raised the lid, peered into it. It stared back at him, a clouded, sightless blue.

He straightened, and stood very still there in the utter silence of the hurtling ship. For a moment, then, in the intensity of his posture and in the dark ruthlessness of his lean, hard features, he seemed the veritable embodiment of grim, icy calculation.

He thought grayly: "If I revived her now, she'd have more time to attack me, and more strength. If I waited, she'd be weaker—"

Slowly, he relaxed. Some of the weariness of the years he and this woman had spent together in the dark vastness of space came to shatter his abnormal logic. Bleak sympathy touched him—and the decision was made.

He prepared an injection, and fed it into her arm. His gray eyes held a steely brightness as he put his lips near the woman's ear; in a ringing, resonant voice he said:

"We're near a star system. There'll be blood, Merla! And life!"

The woman stirred; momentarily, she seemed like a golden-haired doll come alive. No color touched her perfectly formed cheeks, but alertness crept into her eyes. She stared up at him with a hardening hostility, half questioning.

"I've been chemical," she said—and abruptly the doll-like effect was gone. Her gaze tightened on him, and some of the prettiness vanished from her face. Her lips twisted into words:

"It's damned funny, Jeel, that you're still O. K. If I thought—"

He was cold, watchful. "Forget it," he said curtly. "You're an energy waster, and you know it. Anyway, we're going to land."

The flamelike tenseness of her faded. She sat up painfully, but there was a thoughtful look on her face as she said:

"I'm interested in the risks. This is not a Galactic planet, is it?"

"There are no Galactics out here. But there is an Observer. I've been catching the secret *ultra* signals for the last two hours"—a sardonic note entered his voice—"warning all ships to stay clear because the system isn't ready for any kind of contact with Galactic planets."

Some of the diabolic glee that was in his thoughts must have communicated through his tone. The woman stared at him, and slowly her eyes widened. She half whispered:

"You mean—"

He shrugged. "The signals ought to be registering full blast now. We'll see what degree system this is. But you can start hoping hard right now."

At the control board, he cautiously manipulated the room into darkness and set the automatics—a picture took form on a screen on the opposite wall.

At first there was only a point of light in the

middle of a starry sky, then a planet floating brightly in the dark space, continents and oceans plainly visible. A voice came out of the screen:

"This star system contains one inhabited planet, the third from the Sun, called Earth by its inhabitants. It was colonized by Galactics about seven thousand years ago in the usual manner. It is now in the third degree of development, having attained a limited form of space travel little more than a hundred years ago. It—"

With a swift movement, the man cut off the picture and turned on the light, then looked across at the woman in a blank, triumphant silence.

"Third degree!" he said softly, and there was an almost incredulous note in his voice. "Only third degree. Merla, do you realize what this means? This is the opportunity of the ages. I'm going to call the Dreegh tribe. If we can't get away with several tankers of blood and a whole battery of 'life,' we don't deserve to be immortal. We—"

He turned toward the communicator; and for that exultant moment caution was a dim thing in the back of his mind. From the corner of his eye, he saw the woman flow from the edge of the cot. Too late he twisted aside. The frantic jerk saved him only partially; it was their cheeks, not their lips that met.

Blue flame flashed from him to her. The burning energy seared his cheek to instant, bleeding rawness. He half fell to the floor from the shock; and then, furious with the intense agony, he fought free.

"I'll break your bones!" he raged.

Her laughter, unlovely with her own suppressed fury, floated up at him from the floor, where he had flung her. She snarled:

"So you did have a secret supply of 'life' for yourself. You damned double-crosser!"

His black mortification dimmed before the stark realization that anger was useless. Tense with the weakness that was already a weight on his muscles, he whirled toward the control board, and began feverishly to make the adjustments that would pull the ship back into normal space and time.

The body urge grew in him swiftly, a dark, remorseless need. Twice, black nausea sent him reeling to the cot; but each time he fought back to the control board. He sat there finally at the controls, head drooping, conscious of the numbing tautness that crept deeper, deeper—

Almost, he drove the ship too fast. It turned a blazing white when at last it struck the atmosphere of the third planet. But those hard metals held their shape; and the terrible speeds yielded to the fury of the reversers and to the pressure of the air that thickened with every receding mile.

It was the woman who helped his faltering form into the tiny lifeboat. He lay there, gathering

strength, staring with tense eagerness down at the blazing sea of lights that was the first city he had seen on the night side of this strange world.

Dully, he watched as the woman carefully eased the small ship into the darkness behind a shed in a little back alley; and, because succor seemed suddenly near, sheer hope enabled him to walk beside her to the dimly lighted residential street nearby.

He would have walked on blankly into the street, but the woman's fingers held him back into the shadows of the alleyway.

"Are you mad?" she whispered. "Lie down. We'll stay right here till someone comes."

The cement was hard beneath his body, but after a moment of the painful rest it brought, he felt a faint surge of energy; and he was able to voice his bitter thought:

"If you hadn't stolen most of my carefully saved 'life,' we wouldn't be in this desperate position. You know well that it's more important that I remain at full power."

In the dark beside him, the woman lay quiet for a while; then her defiant whisper came:

"We both need a change of blood and a new charge of 'life.' Perhaps I did take a little too much out of you, but that was because I had to steal it. You wouldn't have given it to me of your own free will, and you know it."

For a time, the futility of argument held him silent, but, as the minutes dragged, that dreadful physical urgency once more tainted his thought; he said heavily:

"You realize of course that we've revealed our presence. We should have waited for the others to come. There's no doubt at all that our ship was spotted by the Galactic Observer in this system before we reached the outer planets. They'll have tracers on us wherever we go, and, no matter where we bury our machine, they'll know its exact location. It is impossible to hide the interstellar drive energies; and, since they wouldn't make the mistake of bringing such energies to a third degree planet, we can't hope to locate them in that fashion.

"But we must expect an attack of some kind. I only hope one of the great Galactics doesn't take part in it."

"One of *them*!" Her whisper was a gasp, then she snapped irritably, "Don't try to scare me. You've told me time and again that—"

"All right, all right!" He spoke grudgingly, wearily. "A million years have proven that they consider us beneath their personal attention. And"—in spite of his appalling weakness, scorn came—"let any of the kind of agents they have in these lower category planets try to stop us."

"Hush!" Her whisper was tense. "Footsteps! Quick, get to your feet!"

He was aware of the shadowed form of her ris-

ing; then her hands were tugging at him. Dizzily, he stood up.

"I don't think," he began wanly, "that I can—"

"Jeel!" Her whisper beat at him; her hands shook him. "It's a man and a woman. They're 'life,' Jeel, 'life'!"

Life!

He straightened with a terrible effort. A spark of the unquenchable will to live that had brought him across the black miles and the blacker years, burst into flames inside him. Lightly, swiftly, he fell into step beside Merla, and strode beside her into the open. He saw the shapes of the man and the woman.

In the half-night under the trees of that street, the couple came towards them, drawing aside to let them pass; first the woman came, then the man—and it was as simple as if all his strength had been there in his muscles.

He saw Merla launch herself at the man; and then he was grabbing the woman, his head bending instantly for that abnormal kiss—

Afterwards—after they had taken the blood, too—grimness came to the man, a hard fabric of thought and counterthought, that slowly formed into purpose; he said:

"We'll leave the bodies here."

Her startled whisper rose in objection, but he cut her short harshly: "Let me handle this. These dead bodies will draw to this city news gatherers, news reporters or whatever their breed are called on this planet; and we need such a person now. Somewhere in the reservoir of facts possessed by a person of this type must be clues, meaningless to him, but by which we can discover the secret base of the Galactic Observer in this system. We must find that base, discover its strength, and destroy it if necessary when the tribe comes."

His voice took on a steely note: "And now, we've got to explore this city, find a much frequented building, under which we can bury our ship, learn the language, replenish our own vital supplies—and capture that reporter.

"After I'm through with him"—his tone became silk smooth—"he will undoubtedly provide you with that physical diversion which you apparently crave when you have been particularly chemical."

He laughed gently, as her fingers gripped his arm in the darkness, a convulsive gesture; her voice came: "Thank you, Jeel; you do understand, don't you?"

II.

Behind Leigh, a door opened. Instantly the clatter of voices in the room faded to a murmur. He turned alertly, tossing his cigarette onto the marble floor, and stepping on it, all in one motion.

Overhead, the lights brightened to daylight intensity; and in that blaze he saw what the other eyes were already staring at: the two bodies, the

man's and the woman's, as they were wheeled in.

The dead couple lay side by side on the flat, gleaming top of the carrier. Their bodies were rigid, their eyes closed; they looked as dead as they were, and not at all, Leigh thought, as if they were sleeping.

He caught himself making a mental note of that fact—and felt abruptly shocked.

The first murders on the North American continent in twenty-seven years. And it was only another job. By Heaven, he was tougher than he'd ever believed.

He grew aware that the voices had stopped completely. The only sound was the hoarse breathing of the man nearest him—and then the scrape of his own shoes as he went forward.

His movement acted like a signal on that tense group of men. There was a general pressing forward. Leigh had a moment of hard anxiety; and then his bigger, harder muscles brought him where he wanted to be, opposite the two heads.

He leaned forward in dark absorption. His fingers probed gingerly the neck of the woman, where the incisions showed. He did not look up at the attendant, as he said softly:

"This is where the blood was drained?"

"Yes."

Before he could speak again, another reporter interjected: "Any special comment from the police scientists? The murders are more than a day old now. There ought to be something new."

Leigh scarcely heard. The woman's body, electrically warmed for embalming, felt eerily lifelike to his touch. It was only after a long moment that he noticed her lips were badly, almost brutally, bruised.

His gaze flicked to the man; and there were the same neck cuts, the same torn lips. He looked up, questions quivered on his tongue—and remained unspoken as realization came that the calm-voiced attendant was still talking. The man was saying:

"—normally, when the electric embalmers are applied, there is resistance from the static electricity of the body. Curiously, that resistance was not present in either body."

Somebody said: "Just what does that mean?"

"This static force is actually a form of life force, which usually trickles out of a corpse over a period of a month. We know of no way to hasten the process, but the bruises on the lips show distinct burns, which are suggestive."

There was a craning of necks, a crowding forward; and Leigh allowed himself to be pushed aside. He stopped attentively, as the attendant said: "Presumably, a pervert could have kissed with such violence."

"I thought," Leigh called distinctly, "there were no more perverts since Professor Ungarn persuaded the government to institute his brand of mechanical psychology in all schools, thus ending

murder, theft, war and all unsocial perversions."

The attendant in his black frock coat hesitated; then: "A very bad one seems to have been missed."

He finished: "That's all, gentlemen. No clues, no promise of an early capture, and only this final fact: We've wirelessly Professor Ungarn and, by great good fortune, we caught him on his way to Earth from his meteorite retreat near Jupiter. He'll be landing shortly after dark, in a few hours now."

The lights dimmed. As Leigh stood frowning, watching the bodies being wheeled out, a phrase floated out of the gathering chorus of voices:

"—The kiss of death—"

"I tell you," another voice said, "the captain of this space liner swears it happened—the spaceship came past him at a million miles an hour, and it was slowing down, get that, slowing down—two days ago."

"—The vampire case! That's what I'm going to call it—"

That's what Leigh called it, too, as he talked briefly into his wrist communicator. He finished: "I'm going to supper now, Jim."

"O. K., Bill." The local editor's voice came metallically. "And say, I'm supposed to commend you. Nine thousand papers took the Planetarian Service on this story, as compared with about forty-seven hundred who bought from Universal, who got the second largest coverage."

"And I think you've got the right angle for today also. Husband and wife, ordinary young couple, taking an evening's walk. Some devil hauls up alongside them, drains their blood into a tank, their life energy onto a wire or something—people will believe that, I guess. Anyway, you suggest it could happen to anybody; so be careful, folks. And you warn that, in these days of interplanetary speeds, he could be anywhere tonight for his next murder."

"As I said before, good stuff. That'll keep the story frying hard for tonight. Oh, by the way—"

"Shoot!"

"A kid called half an hour ago to see you. Said you expected him."

"A kid?" Leigh frowned to himself.

"Name of Patrick. High school age, about sixteen. No, come to think of it, that was only my first impression. Eighteen, maybe twenty, very bright, confident, proud."

"I remember now," said Leigh, "college student. Interview for a college paper. Called me up this afternoon. One of those damned persuasive talkers. Before I knew it, I was signed up for supper at Constantine's."

"That's right. I was supposed to remind you. O. K.?"

Leigh shrugged. "I promised," he said.

Actually, as he went out into the blaze of late

afternoon, sunlit street, there was not a thought in his head. Nor a premonition.

Around him, the swarm of humankind began to thicken. Vast buildings discharged the first surge of the five o'clock tidal wave—and twice Leigh felt the tug at his arm before it struck him that someone was not just bumping him.

He turned, and stared down at a pair of dark, eager eyes set in a brown, wizened face. The little man waved a sheaf of papers at him. Leigh caught a glimpse of writing in longhand on the papers. Then the fellow was babbling:

"Mr. Leigh, hundred dollars for these . . . biggest story—"

"Oh," said Leigh. His interest collapsed; then his mind roused itself from its almost blank state; and pure politeness made him say: "Take it up to the Planetarian office. Jim Brian will pay you what the story is worth."

He walked on, the vague conviction in his mind that the matter was settled. Then, abruptly, there was the tugging at his arm again.

"Scoop!" the little man was muttering. "Professor Ungarn's log, all about a spaceship that came from the stars. Devils in it who drink blood and kiss people to death!"

"See here!" Leigh began, irritated; and then he stopped physically and mentally. A strange ugly chill swept through him. He stood there, swaying a little from the shock of the thought that was frozen in his brain:

The newspapers with those details of "blood" and "kiss" were not on the street yet, wouldn't be for another five minutes.

The man was saying: "Look, it's got Professor Ungarn's name printed in gold on the top of each sheet, and it's all about how he first spotted the ship eighteen light years out, and how it came all that distance in a few hours . . . and he knows where it is now and—"

Leigh heard, but that was all. His reporter's brain, that special, highly developed department, was whirling with a little swarm of thoughts that suddenly straightened into a hard, bright pattern; and in that tightly built design, there was no room for any such brazen coincidence as this man coming to him here in this crowded street.

He said: "Let me see those!" And reached as he spoke.

The papers came free from the other's fingers into his hands, but Leigh did not even glance at them. His brain was crystal-clear, his eyes cold; he snapped:

"I don't know what game you're trying to pull. I want to know three things, and make your answers damned fast! One: How did you pick me out, name and job and all, here in this packed street of a city I haven't been in for a year?"

He was vaguely aware of the little man trying to speak, stammering incomprehensible words. But he paid no attention. Remorselessly, he pounded on:

"Two: Professor Ungarn is arriving from Jupiter in three hours. How do you explain your possession of papers he must have written, less than two days ago?"

"Look, boss," the man chattered, "you've got me all wrong—"

"My third question," Leigh said grimly, "is how are you going to explain to the police your pre-knowledge of the details of—murder?"

"Huh!" The little man's eyes were glassy, and for the first time pity came to Leigh. He said almost softly:

"All right, fellah, start talking."

The words came swiftly, and at first they were simply senseless sounds; only gradually did coherence come.

"—And that's the way it was, boss. I'm standing there, and this kid comes up to me and points you out, and gives me five bucks and those papers you've got, and tells me what I'm supposed to say to you and—"

"Kid!" said Leigh; and the first shock was already in him.

"Yeah, kid about sixteen; no, more like eighteen or twenty . . . and he gives me the papers and—"

"This kid," said Leigh, "would you say he was of college age?"

"That's it, boss; you've got it. That's just what he was. You know him, eh? O. K., that leaves me in the clear, and I'll be going—"

"Wait!" Leigh called, but the little man seemed suddenly to realize that he need only run, for he jerked into a mad pace; and people stared, and that was all. He vanished around a corner, and was gone forever.

Leigh stood, frowning, reading the thin sheaf of papers. And there was nothing beyond what the little man had already conveyed by his incoherent word of mouth, simply a vague series of entries on sheets from a loose-leaf notebook.

Written down, the tale about the spaceship and its occupants lacked depth, and seemed more unconvincing each passing second. True, there was the single word "Ungarn" inscribed in gold on the top of each sheet but—

Leigh shook himself. The sense of silly hoax grew so violently that he thought with abrupt anger: If that damned fool college kid really pulled a stunt like—

The thought ended; for the idea was as senseless as everything that had happened.

And still there was no real tension in him. He was only going to a restaurant.

He turned into the splendid foyer that was the beginning of the vast and wonderful Constantine's.

In the great doorway, he paused for a moment to survey the expansive glitter of tables, the hanging garden tearooms; and it was all there.

Brilliant Constantine's, famous the world over—but not much changed from his last visit.

Leigh gave his name, and began: "A Mr. Patrick made reservations, I understand—"

The girl cut him short. "Oh, yes, Mr. Leigh. Mr. Patrick reserved Private 3 for you. He just now phoned to say he'd be along in a few minutes. Our premier will escort you."

Leigh was turning away, a vague puzzled thought in his mind at the way the girl had gushed, when a flamelike thought struck him: "Just a minute, did you say *Private 3*? Who's paying for this?"

The girl glowed at him: "It was paid by phone. Forty-five hundred dollars!"

Leigh stood very still. In a single, flashing moment, this meeting that, even after what had happened on the street, had seemed scarcely more than an irritation to be gotten over with, was become a fantastic, abnormal thing.

Forty-five—hundred—dollars! Could it be some damned fool rich kid sent by a college paper, but who had pulled this whole affair because he was determined to make a strong, personal impression?

Coldly, alertly, his brain rejected the solution. Humanity produced egotists on an elephantastic scale, but not one who would order a feast like that to impress a reporter.

His eyes narrowed on an idea: "Where's your registered phone?" he asked curtly.

A minute later, he was saying into the mouthpiece: "Is that the Amalgamated Universities Secretariat? . . . I want to find out if there is a Mr. Patrick registered at any of your local colleges, and, if there is, whether or not he has been authorized by any college paper to interview William Leigh of the Planetarian News Service. This is Leigh calling."

It took six minutes, and then the answer came, brisk, tremendous and final: "There are three Mr. Patricks in our seventeen units. All are at present having supper at their various official residences. There are four Miss Patricks similarly accounted for by our staff of secretaries. None of these seven is in any way connected with a university paper. Do you wish any assistance in dealing with the impostor?"

Leigh hesitated; and when he finally spoke, it was with the queer, dark realization that he was committing himself. "No," he said, and hung up.

He came out of the phone box, shaken by his own thoughts. There was only one reason why he was in this city at this time. Murder! And he knew scarcely a soul. Therefore—

It was absolutely incredible that any stranger would want to see him for a reason not connected

with his own purpose. He shook the ugly thrill out of his system; he said:

"To Private 3, please—"

Tensed but cool, he examined the apartment that was Private 3. Actually that was all it was, a splendidly furnished apartment with a palacelike dining salon dominating the five rooms, and one entire wall of the salon was lined with decorated mirror facings, behind which glittered hundreds of bottles of liquors.

The brands were strange to his inexpensive tastes, the scent of several that he opened heady and—quite uninviting. In the ladies' dressing room was a long showcase displaying a gleaming array of jewelry—several hundred thousand dollars' worth, if it was genuine, he estimated swiftly.

Leigh whistled softly to himself. On the surface, Constantine's appeared to supply good rental value for the money they charged.

"I'm glad you're physically big," said a cool voice behind him. "So many reporters are thin and small."

It was the voice that did it, subtly, differently toned than it had been over the phone in the early afternoon. Deliberately different.

The difference, he noted as he turned, was in the body, too, the difference in the shape of a woman from a boy, skillfully but not perfectly concealed under the well-tailored man's suit—actually, of course, she was quite boyish in build, young, finely molded.

And, actually, he would never have suspected if she had not allowed her voice to be so purposefully womanish. She echoed his thought coolly:

"Yes, I wanted you to know. But now, there's no use wasting words. You know as much as you need to know. Here's a gun. The spaceship is buried below this building."

Leigh made no effort to take the weapon, nor did he even glance at it. Instead, cool now, that the first shock was over, he seated himself on the silk-yielding chair of the vanity dresser in one corner, leaned heavily back against the vanity itself, raised his eyebrows, and said:

"Consider me a slow-witted lunk who's got to know what it's all about. Why so much preliminary hocus-pocus?"

He thought deliberately: He had never in his adult life allowed himself to be rushed into anything. He was not going to start now.

III.

The girl, he saw after a moment, was small of build. Which was odd, he decided carefully. Because his first impression had been of reasonable length of body. Or perhaps—he considered the possibility unhurriedly—this second effect was a more considered result of her male disguise.



He dismissed that particular problem as temporarily insoluble, and because actually—it struck him abruptly—this girl's size was unimportant. She had long, black lashes and dark eyes that glowed at him from a proud, almost haughty face. And that was it; quite definitely that was the essence of her blazing, powerful personality.

Pride was in the way she held her head. It was in the poised easiness of every movement, the natural shift from grace to grace as she walked slowly toward him. Not conscious pride here, but an awareness of superiority that affected every movement of her muscles, and came vibrantly into her voice, as she said scathingly:

"I picked you because every newspaper I've read

today carried your account of the murders, and because it seemed to me that somebody who already was actively working on the case would be reasonably quick at grasping essentials. As for the dramatic preparation, I considered that would be more convincing than drab explanation. I see I was mistaken in all these assumptions."

She was quite close to him now. She leaned over, laid her revolver on the vanity beside his arm, and finished almost indifferently:

"Here's an effective weapon. It doesn't shoot bullets, but it has a trigger and you aim it like any gun. In the event you develop the beginning of courage, come down the tunnel after me as quickly as possible, but don't blunder in on me and the peo-

ple I shall be talking to. Stay hidden! Act only if I'm threatened."

Tunnel, Leigh thought stolidly, as she walked with a free, swift stride out of the room—tunnel here in this apartment called Private 3. Either he was crazy, or she was.

Quite suddenly, realization came that he ought to be offended at the way she had spoken. And that insultingly simple come-on trick of hers, leaving the room, leaving him to develop curiosity—he smiled ruefully; if he hadn't been a reporter, he'd show her that such a second-rate psychology didn't work on him.

Still annoyed, he climbed to his feet, took the gun, and then paused briefly as the odd, muffled sound came of a door opening reluctantly—

He found her in the bedroom to the left of the dining salon; and because his mind was still in that state of pure receptiveness, which, for him, replaced indecisiveness, he felt only the vaguest surprise to see that she had the end of a lush green rug rolled back, and that there was a hole in the floor at her feet.

The gleaming square of floor that must have covered the opening, lay back neatly, pinned to position by a single, glitteringly complicated hinge. But Leigh scarcely noticed that.

His gaze reached beyond that—tunnel—to the girl; and, in that moment, just before she became aware of him, there was the barest suggestion of uncertainty about her. And her right profile, half turned away from him, showed pursed lips, a strained whiteness, as if—

The impression he received was of indecisiveness. He had the subtle sense of observing a young woman who, briefly, had lost her superb confidence. Then she saw him; and his whole emotion picture twisted.

She didn't seem to stiffen in any way. Paying no attention to him at all, she stepped down to the first stair of the little stairway that led down into the hole, and began to descend without a quiver of hesitation. And yet—

Yet his first conviction that she had faltered brought him forward with narrowed eyes. And, suddenly, that certainty of her brief fear made this whole madness real. He plunged forward, down the steep stairway, and pulled up only when he saw that he was actually in a smooth, dimly lighted tunnel; and that the girl had paused, one finger to her lips.

"Sssshh!" she said. "The door of the ship may be open."

Irritation struck Leigh, a hard trickle of anger. Now that he had committed himself, he felt automatically the leader of this fantastic expedition; and that girl's pretensions, the devastating haughtiness of her merely produced his first real impatience.

"Don't 'ssshh me!'" he whispered sharply. "Just give me the facts, and I'll do the rest."

He stopped. For the first time the meaning of all the words she had spoken penetrated. His anger collapsed like a plane in a crash landing.

"Ship!" he said incredulously. "Are you trying to tell me there's actually a spaceship buried here under Constantine's?"

The girl seemed not to hear; and Leigh saw that they were at the end of a short passageway. Metal gleamed dully just ahead. Then the girl was saying:

"Here's the door. Now, remember, you act as guard. Stay hidden, ready to shoot. And if I yell 'Shoot,' you shoot!"

She bent forward. There was the tiniest scarlet flash. The door opened, revealing a second door just beyond. Again that minute, intense blaze of red; and that door too swung open.

It was swiftly done, too swiftly. Before Leigh could more than grasp that the crisis was come, the girl stepped coolly into the brilliantly lighted room beyond the second door.

There was shadow where Leigh stood half-paralyzed by the girl's action. There was deeper shadow against the metal wall toward which he pressed himself in one instinctive move. He froze there, cursing silently at a stupid young woman who actually walked into a den of enemies of unknown numbers without a genuine plan of self-protection.

Or did she know how many there were? And who?

The questions made twisting paths in his mind down, down to a thrall of blankness—that ended only when an entirely different thought replaced it:

At least he was out here with a gun, unnoticed—or was he?

He waited tensely. But the door remained open; and there was no apparent movement towards it. Slowly, Leigh let himself relax, and allowed his straining mind to absorb its first considered impressions.

The portion of underground room that he could see showed one end of what seemed to be a control board, a metal wall that blinked with tiny lights, the edge of a rather sumptuous cot—and the whole was actually so suggestive of a spaceship that Leigh's logic-resistance collapsed.

Incredibly, here under the ground, actually under Constantine's was a small spaceship and—

That thought ended, too, as the silence beyond the open door, the curiously long silence, was broken by a man's cool voice:

"I wouldn't even try to raise that gun if I were you. The fact that you have said nothing since entering shows how enormously different we are to what you expected."

He laughed gently, an unhurried, deep-throated derisive laughter that came clearly to Leigh. The man said:

"Merla, what would you say is the psychology behind this young lady's action? You have of course noticed that she is a young lady, and not a boy."

A richly toned woman's voice replied: "She was born here, Jeel. She has none of the normal characteristics of a Klugg, but she is a Galactic, though definitely not the Galactic Observer. Probably, she's not alone. Shall I investigate?"

"No!" The man sounded indifferent to the tensing Leigh. "We don't have to worry about a Klugg's assistant."

Leigh relaxed slowly, but there was a vast uneasiness in his solar nerves, a sense of emptiness, the first realization of how great a part the calm assurance of the young woman had played in the fabricating of his own basic confidence.

Shattered now! Before the enormous certainties of these two, and in the face of their instant penetration of her male disguise, the effects of the girl's rather wonderful personality seemed a remote pattern, secondary, definitely overwhelmed.

He forced the fear from him, as the girl spoke; forced his courage to grow with each word she uttered, feeding on the haughty and immense confidence that was there. It didn't matter whether she was simulating or not, because they were in this now, he as deep as she; and only the utmost boldness could hope to draw a fraction of victory from the defeat that loomed so starkly.

With genuine admiration, he noted the glowing intensity of her speech, as she said:

"My silence had its origin in the fact that you are the first Dreeghs I have ever seen. Naturally, I studied you with some curiosity, but I can assure you I am not impressed.

"However, in view of your extraordinary opinions on the matter, I shall come to the point at once: I have been instructed by the Galactic Observer of this system to inform you to be gone by morning. Our sole reason for giving you that much leeway is that we don't wish to bring the truth of all this into the open.

"But don't count on that. Earth is on the verge of being given fourth degree rating; and, as you probably know, in emergencies fourths are given Galactic knowledge. That emergency we will consider to have arrived tomorrow at dawn."

"Well, well"—the man was laughing gently, satirically—"a pretty speech, powerfully spoken, but meaningless for us who can analyze its pretensions, however sincere, back to the Klugg origin."

"What do you intend with her, Jeel?"

The man was cold, deadly, utterly sure. "There's no reason why she should escape. She has blood and more than normal life. It will convey to the

Observer with clarity our contempt for his ultimatum."

He finished with a slow, surprisingly rich laughter: "We shall now enact a simple drama. The young lady will attempt to jerk up her gun and shoot me with it. Before she can even begin to succeed, I shall have my own weapon out and firing. The whole thing, as she will discover, is a matter of nervous co-ordination. And Kluggs are chronically almost as slow-moving as human beings."

His voice stopped. His laughter trickled away. Silence.

In all his alert years, Leigh had never felt more indecisive. His emotions said—*now*; surely, she'd call now. And even if she didn't, he must act on his own. Rush in! Shoot!

But his mind was cold with an awful dread. There was something about the man's voice, a surging power, a blazing, incredible certainty. Abnormal, savage strength was here; and if this was really a spaceship from the stars—

His brain wouldn't follow that flashing, terrible thought. He crouched, fingering the gun she had given him, dimly conscious for the first time that it felt queer, unlike any revolver he'd ever had.

He crouched stiffly, waiting—and the silence from the spaceship control room, from the tensed figures that must be there just beyond his line of vision, continued. The same curious silence that had followed the girl's entrance short minutes before. Only this time it was the girl who broke it, her voice faintly breathless but withal cool, vibrant, unafraid:

"I'm here to warn, not to force issues. And unless you're charged with the life energy of fifteen men, I wouldn't advise you to try anything either. After all, I came here knowing what you were."

"What do you think, Merla? Can we be sure she's a Klugg? Could she possibly be of the higher Lennel type?"

It was the man, his tone conceding her point, but the derision was still there, the implacable purpose, the high, tremendous confidence.

And yet, in spite of that unrelenting sense of imminent violence, Leigh felt himself torn from the thought of her danger—and his. His reporter's brain twisted irresistibly to the fantastic meaning of what was taking place:

—*Life energy of fifteen men*—

It was all there; in a monstrous way it all fitted. The two dead bodies he had seen drained of blood and *life energy*, the repeated reference to a Galactic Observer, with whom the girl was connected.

Leigh thought almost blankly: Galactic meant—well—Galactic; and that was so terrific that— He grew aware that the woman was speaking:

"Klugg!" she said positively. "Pay no attention to her protestations, Jeel. You know, I'm sensitive

when it comes to women. She's lying. She's just a little fool who walked in here expecting us to be frightened of her. Destroy her at your pleasure."

"I'm not given to waiting," said the man. "So—"

Quite automatically, Leigh leaped for the open doorway. He had a flashing glimpse of a man and woman, dressed in evening clothes, the man standing, the woman seated. There was awareness of a gleaming, metallic background, the control board, part of which he had already seen, now revealed as a massive thing of glowing instruments; and then all that blotted out as he snapped:

"That will do. Put up your hands."

For a long, dazzling moment he had the impression that his entry was a complete surprise; and that he dominated the situation. None of the three people in the room was turned toward him. The man, Jeel, and the girl were standing, facing each other; the woman, Merla, sat in a deep chair, her fine profile to him, her golden head flung back.

It was she who, still without looking at him, sneered visibly—and spoke the words that ended his brief conviction of triumph. She said to the disguised girl:

"You certainly travel in low company, a stupid human being. Tell him to go away before he's damaged."

The girl said: "Leigh, I'm sorry I brought you into this. Every move you made in entering was heard, observed and dismissed before you could even adjust your mind to the scene."

"Is his name Leigh?" said the woman sharply. "I thought I recognized him as he entered. He's very like his photograph over his newspaper column." Her voice grew strangely tense: "Jeel, a newspaper reporter!"

"We don't need him now," the man said. "We know who the Galactic Observer is."

"Eh?" said Leigh; his mind fastened hard on those amazing words. "Who? How did you find out? What—"

"The information," said the woman; and it struck him suddenly that the strange quality in her voice was eagerness, "will be of no use to you. Regardless of what happens to the girl, you're staying."

She glanced swiftly at the man, as if seeking his sanction. "Remember, Jeel, you promised."

It was all quite senseless, so meaningless that Leigh had no sense of personal danger. His mind scarcely more than passed the words; his eyes concentrated tautly on a reality that had, until that moment, escaped his awareness. He said softly:

"Just now you used the phrase, 'Regardless of what happens to the girl.' When I came in, you said, 'Tell him to go away before he's damaged.'"

Leigh smiled grimly: "I need hardly say this is a far cry from the threat of immediate death that

hung over us a few seconds ago. And I have just now noticed the reason.

"A little while ago, I heard our pal, Jeel, dare my little girl friend here to raise her gun. I notice now that *she has it raised*. My entrance did have an effect." He addressed himself to the girl, finished swiftly: "Shall we shoot—or withdraw?"

It was the man who answered: "I would advise withdrawal. I could still win, but I am not the heroic type who takes the risk of what might well be a close call."

He added, in an aside to the woman: "Merla, we can always catch this man, Leigh, now that we know who he is."

The girl said: "You first, Mr. Leigh." And Leigh did not stop to argue.

Metal doors clanged behind him, as he charged along the tunnel. After a moment, he was aware of the girl running lightly beside him.

The strangely unreal, the unbelievably murderous little drama was over, finished as fantastically as it had begun.

IV.

Outside Constantine's a gray light gathered around them. A twilight side street it was, and people hurried past them with the strange, anxious look of the late for supper. Night was falling.

Leigh stared at his companion; in the dimness of the deep dusk, she seemed all boy, slightly, lithely built, striding along boldly. He laughed a little, huskily, then more grimly:

"Just what was all that? Did we escape by the skin of our teeth? Or did we win? What made you think you could act like God, and give those tough eggs twelve hours to get out of the Solar System?"

The girl was silent after he had spoken. She walked just ahead of him, head bent into the gloom. Abruptly, she turned; she said:

"I hope you will have no nonsensical idea of telling what you've seen or heard."

Leigh said: "This is the biggest story since—"

"Look"—the girl's voice was pitying—"you're not going to print a word because in about ten seconds you'll see that no one in the world would believe the first paragraph."

In the darkness, Leigh smiled tightly: "The mechanical psychologist will verify every syllable."

"I came prepared for that, too!" said the vibrant voice. Her hand swung up, toward his face. Too late, he jerked back.

Light flared in his eyes, a dazzling, blinding force that exploded into his sensitive optic nerves with all the agonizing power of intolerable brightness. Leigh cursed aloud, wildly, and snatched forward toward his tormenter. His right hand grazed a shoulder. He lashed out violently with his left, and tantalizingly caught only the edge of a sleeve that instantly jerked away.

"You little devil!" he raged futilely. "You've blinded me."

"You'll be all right," came the cool answer, "but you'll find that the mechanical psychologist will report anything you say as the purest imagination. In view of your threat to publish, I had to do that. Now, give me my gun."

The first glimmer of sight was returning. Leigh could see her body a dim, wavering shape in the night. In spite of the continuing pain, Leigh smiled grimly. He said softly:

"I've just now remembered you said this gun didn't shoot bullets. Even the *feel* of it suggests that it'll make an interesting proof of anything I say. So—"

His smile faded abruptly. For the girl stepped forward. The metal that jabbed into his ribs was so hardly thrust, it made him grunt.

"Give me that gun!"

"Like fun I will," Leigh snapped. "You ungrateful little ruffian, how dare you treat me so shoddily after I saved your life? I ought to knock you one right on the jaw for—"

He stopped—stopped because with staggering suddenness the hard, hard realization struck that she meant it. This was no girl raised in a refined school, who wouldn't dare to shoot, but a cold-blooded young creature, who had already proved the metalliclike fabric of which her courage was made.

He had never had any notions about the superiority of man over woman; and he felt none now. Without a single word, almost hastily, he handed the weapon over. The girl took it, and said coldly:

"You seem to be laboring under the illusion that your entry into the spaceship enabled me to raise my weapon. You're quite mistaken. What you did do was to provide me with the opportunity to let them think that that was the situation, and that they dominated it. But I assure you, that is the extent of your assistance, almost valueless."

Leigh laughed out loud, a pitying, ridiculing laugh.

"In my admittedly short life," he said laconically, "I've learned to recognize a quality of personality and magnetism in human beings. You've got it, a lot of it, but not a fraction of what either of those two had, particularly the man. He was terrible. He was absolutely the most abnormally magnetic human being I've ever run across. Lady, I can only guess what all this is about, but I'd advise you"—Leigh paused, then finished slashingly—"you and all the other Kluggs to stay away from that couple.

"Personally, I'm going to get the police in on this, and there's going to be a raid on Private 3. I didn't like that odd threat that they could capture me any time. Why me—"

He broke off hastily: "Hey, where are you go-

ing? I want to know your name. I want to know what made you think you could order those two around. *Who did you think you were?*"

He said no more, his whole effort concentrated on running. He could see her for a moment, a hazy, boyish figure against a dim corner light. Then she was around the corner.

His only point of contact with all this; and if she got away—

Sweating, he rounded the corner; and at first the street seemed dark and empty of life. Then he saw the car.

A normal-looking, high-hooded coupé, long, low-built, that began to move forward noiselessly and—quite normally.

It became abnormal. It lifted. Amazingly, it lifted from the ground. He had a swift glimpse of white rubber wheels folding out of sight. Streamlined, almost cigar-shaped now, the spaceship that had been a car darted at a steep angle into the sky.

Instantly it was gone.

Above Leigh, the gathering night towered, a strange, bright blue. In spite of the brilliant lights of the city glaring into the sky, one or two stars showed. He stared up at them, empty inside, thinking: "It was like a dream. Those—Dreeghs—coming out of space—bloodsuckers, vampires."

Suddenly hungry, he bought a chocolate from a sidewalk stand, and stood munching it.

He began to feel better. He walked over to a nearby wall socket, and plugged in his wrist radio.

"Jim," he said, "I've got some stuff, not for publication, but maybe we can get some police action on it. Then I want you to have a mechanical psychologist sent to my hotel room. There must be some memory that can be salvaged from my brain—"

He went on briskly. His sense of inadequacy waned notably. Reporter Leigh was himself again.

V.

The little glistening balls of the mechanical psychologist were whirring faster, faster. They became a single, glowing circle in the darkness. And not till then did the first, delicious whiff of psycho-gas touch his nostrils. He felt himself drifting, slipping—

A voice began to speak in the dim distance, so far away that not a word came through. There was only the sound, the faint, curious sound, and the feeling, stronger every instant, that he would soon be able to hear the fascinating things it seemed to be saying.

The longing to hear, to become a part of the swelling, murmuring sound drew his whole being in little rhythmical, wavelike surges. And still the promise of meaning was unfulfilled.

Other, private thoughts ended utterly. Only

the mindless chant remained, and the pleasing gas holding him so close to sleep, its flow nevertheless so delicately adjusted that his mind hovered minute after minute on the ultimate abyss of consciousness.

He lay, finally, still partially awake, but even the voice was merging now into blackness. It clung for a while, a gentle, friendly, melodious sound in the remote background of his brain, becoming more remote with each passing instant. He slept, a deep, hypnotic sleep, as the machine purred on—

When Leigh opened his eyes, the bedroom was dark except for the floor lamp beside a corner chair. It illuminated the darkly dressed woman who sat there, all except her face, which was in shadow above the circle of light.

He must have moved, for the shadowed head suddenly looked up from some sheets of typewriter-size paper. The voice of Merla, the Dreegh, said:

"The girl did a very good job of erasing your subconscious memories. There's only one possible clue to her identity and—"

Her words went on, but his brain jangled them to senselessness in that first horrible shock of recognition. It was too much, too much fear in too short a time. For a brief, terrible moment, he was like a child, and strange, cunning, *intense* thoughts of escape came:

If he could slide to the side of the bed, away from where she was sitting, and run for the bathroom door—

"Surely, Mr. Leigh," the woman's voice reached toward him, "you know better than to try anything foolish. And, surely, if I had intended to kill you, I would have done it much more easily while you were asleep."

Leigh lay very still, gathering his mind back into his head, licking dry lips. Her words were utterly un reassuring. "What—do—you—want?" he managed finally.

"Information!" Laconically. "What was that girl?"

"I don't know." He stared into the half gloom, where her face was. His eyes were more accustomed to the light now, and he could catch the faint, golden glint of her hair. "I thought—you knew."

He went on more swiftly: "I thought you knew the Galactic Observer; and that implied the girl could be identified any time."

He had the impression she was smiling. She said:

"Our statement to that effect was designed to throw both you and the girl off guard, and constituted the partial victory we snatched from what had become an impossible situation."

The body sickness was still upon Leigh, but the desperate fear that had produced it was fading before the implications of her confession of weak-

ness, the realization that these Dreeghs were not so superhuman as he had thought. Relief was followed by caution. Careful, he warned himself, it wouldn't be wise to underestimate. But he couldn't help saying:

"So you weren't so smart. And I'd like to point out that even your so-called snatching of victory from defeat was not so well done. Your husband's statement that you could pick me up any time could easily have spoiled the picking."

The woman's voice was cool, faintly contemptuous. "If you knew anything of psychology, you would realize that the vague phrasing of the threat actually lulled you. Certainly, you failed to take even minimum precautions. And the girl has definitely not made any effort to protect you."

The suggestion of deliberately subtle tactics brought to Leigh a twinge of returning alarm. Deep, deep inside him was the thought: What ending did the Dreegh woman plan for this strange meeting?

"You realize, of course," the Dreegh said softly, "that you will either be of value to us alive—or



dead. There are no easy alternatives. I would advise alertness and utmost sincerity in your cooperation. You are in his affair without limit."

So that was the plan. A thin bead of perspiration trickled down Leigh's cheek. And his fingers trembled as he reached for a cigarette on the table beside the bed.

He was shakily lighting the cigarette when his gaze fastened on the window. That brought a faint shock, for it was raining, a furious rain that hammered soundlessly against the noise-proof glass.

He pictured the bleak, empty streets, their brilliance dulled by the black, rain-filled night; and, strangely, the mind picture unnerved him.

Deserted streets—deserted Leigh. For he was deserted here; all the friends he had, scattered over the great reaches of the earth, couldn't add one ounce of strength, or bring one real ray of hope to him in this darkened room, against this woman who sat so calmly under the light, studying him from shadowed eyes.

With a sharp effort, Leigh steadied himself. He said: "I gather that's my psychograph report you have in your hand. What does it say?"

"Very disappointing." Her voice seemed far away. "There's a warning in it about your diet. It seems your meals are irregular."

She was playing with him. The heavy attempt at humor made her seem more inhuman, not less; for, somehow, the words clashed unbearably with the reality of her; the dark immensity of space across which she had come, the unnatural lusts that had brought her and the man to this literally unprotected Earth.

Leigh shivered. Then he thought fiercely: "Damn it, I'm scaring myself. So long as she stays in her chair, she can't pull the vampire on me."

The harder thought came that it was no use being frightened. He'd better simply be himself, and await events. Aloud, he said:

"If there's nothing in the psychograph, then I'm afraid I can't help you. You might as well leave. Your presence isn't making me any happier."

In a dim way, he hoped she'd laugh. But she didn't. She sat there, her eyes glinting dully out of the gloom. At last, she said:

"We'll go through this report together. I think we can safely omit the references to your health as being irrelevant. But there are a number of factors that I want developed. Who is Professor Ungarn?"

"A scientist." Leigh spoke frankly. "He invented this system of mechanical hypnosis, and he was called in when the dead bodies were found because the killings seemed to have been done by pervers."

"Have you any knowledge of his physical appearance?"

"I've never seen him," Leigh said more slowly. "He never gives interviews, and his photograph is not available now. I've heard stories, but—"

He hesitated. It wasn't, he thought frowning, as if he was giving what was not general knowledge. What was the woman getting at, anyway? Ungarn—

"These stories," she said, "do they give the impression that he's a man of inordinate magnetic force, but with lines of mental suffering etched in his face, and a sort of resignation?"

"Resignation to what?" Leigh exclaimed sharply. "I haven't the faintest idea what you're talking about. I've only seen photographs, and they show a fine, rather sensitive, tired face."

She said: "There would be more information in any library?"

"Or in the Planetarian Service morgue," Leigh said, and could have bitten off his tongue for that bit of gratuitous information.

"Morgue?" said the woman.

Leigh explained, but his voice was trembling with self-rage. For seconds now the feeling had been growing on him: Was it possible this devilish woman was on the right track? And getting damaging answers out of him because he dared not stop and organize for lying.

Even as savage anxiety came, he had an incongruous sense of the unfairness of the abnormally swift way she had solved the Observer's identity because, damn it, damn it, it could be Professor Ungarn.

Ungarn, the mystery scientist, great inventor in a dozen highly complicated, widely separated fields; and there was that mysterious meteorite home near one of Jupiter's moons and he had a daughter, named Patricia. Good heavens, Patrick—Patricia—

His shaky stream of thoughts ended, as the woman said:

"Can you have your office send the information to your recorder here?"

"Y-yes!" His reluctance was so obvious that the woman bent into the light. For a moment, her golden hair glittered; her pale-blue eyes glowed at him in a strangely humorless, satanic amusement.

"Ah!" she said, "you think so, too?"

She laughed, an odd, musical laugh—odd in that it was at once so curt and so pleasant. The laugh ended abruptly, unnaturally, on a high note. And then—although he had not seen her move—there was a metal thing in her hand, pointing at him. Her voice came at him, with a brittle, jarring command:

"You will climb out of the bed, operate the recorder, and naturally you will do nothing, say nothing but what is necessary."

Leigh felt genuinely dizzy. The room swayed; and he thought sickly: If he could only faint.

But he recognized dismally that that was beyond the power of his tough body. It was sheer mental dismay that made his nerves so shivery. And even that faded like fog in strong sunlight, as he walked to the recorder. For the first time in his life, he hated the resilience of strength that made his voice steady as a rock, as, after setting the machine, he said:

"This is William Leigh. Give me all the dope you've got on Professor Garret Ungarn."

There was a pause, during which he thought hopelessly: "It wasn't as if he was giving information not otherwise accessible. Only—"

There was a click in the machine; then a brisk voice: "You've got it. Sign the form."

Leigh signed, and watched the signature dissolve into the machine. It was then, as he was straightening, that the woman said:

"Shall I read it here, Jeel, or shall we take the machine along?"

That was mind-wrecking. Like a man possessed, Leigh whirled; and then, very carefully, he sat down on the bed.

The Dreegh, Jeel, was leaning idly against the jamb of the bathroom door, a dark, malignantly handsome man, with a faint, unpleasant smile on his lips. Behind him—incredibly, behind him, through the open bathroom door was, not the gleaming bath, but another door; and beyond that door still another door, and beyond that—

The control room of the Dreegh spaceship!

There it was, exactly as he had seen it in the solid ground under Constantine's. He had the same partial view of the sumptuous cot, the imposing section of instrument board, the tastefully padded floor—

In his bathroom!

The insane thought came to Leigh: "Oh, yes, I keep my spaceship in my bathroom and—" It was the Dreegh's voice that drew his brain from its dizzy contemplation; the Dreegh saying:

"I think we'd better leave. I'm having difficulty holding the ship on the alternation of space-time planes. Bring the man and the machine and—"

Leigh didn't hear the last word. He jerked his mind all the way out of the—bathroom. "You're—taking—me?"

"Why, of course." It was the woman who spoke. "You've been promised to me, and, besides, we'll need your help in finding Ungarn's meteorite."

Leigh sat very still. The unnatural thought came: He was glad that he had in the past proven to himself that he was not a coward.

For here was certainty of death.

He saw after a moment that the rain was still beating against the glass, great, sparkling drops

that washed murkily down the broad panes. And he saw that the night was dark.

Dark night, dark rain, dark destiny—they fitted his dark, grim thoughts. With an effort he forced his body, his mind, into greater stiffness. Automatically, he shifted his position, so that the weight of muscles would draw a tight band over the hollowness that he felt in his stomach. When at last he faced his alien captors again, Reporter Leigh was cold with acceptance of his fate—and prepared to fight for his life.

"I can't think of a single reason," he said, "why I should go with you. And if you think I'm going to help you destroy the Observer, you're crazy."

The woman said matter-of-factly: "There was a passing reference in your psychograph to a Mrs. Henry Leigh, who lives in a village called Relton, on the Pacific coast. We could be there in half an hour, your mother and her home destroyed within a minute after that. Or, perhaps, we could add her blood to our reserves."

"She would be too old," the man said in a chill tone. "We do not want the blood of old people."

It was the icy objection that brought horror to Leigh. He had a brief, terrible picture of a silent, immensely swift ship sweeping out of the Eastern night, over the peaceful hamlet; and then unearthly energies would reach down in a blaze of fury.

One second of slashing fire, and the ship would sweep on over the long, dark waters to the west.

The deadly picture faded. The woman was saying, gently:

"Jeel and I have evolved an interesting little system of interviewing human beings of the lower order. For some reason, he frightens people merely by his presence. Similarly, people develop an unnatural fear of me when they see me clearly in a strong light. So we have always tried to arrange our meetings with human beings with me sitting in semidarkness and Jeel very much in the background. It has proved very effective."

She stood up, a tall, lithely built, shadowed figure in a rather tight-fitting skirt and a dark blouse. She finished: "But now, shall we go? You bring the machine, Mr. Leigh."

"I'll take it," said the Dreegh.

Leigh glanced sharply at the lean, sinewed face of the terrible man, startled at the instant, accurate suspicion of the desperate intention that had formed in his mind.

The Dreegh loomed over the small machine, where it stood on a corner desk. "How does it work?" he asked almost mildly.

Trembling, Leigh stepped forward. There was still a chance that he could manage this without additional danger to anyone. Not that it would be more than a vexation, unless—as their suggestion about finding the Ungarn meteorite indicated—

they headed straight out to space. Then, why, it might actually cause real delay. He began swiftly:

"Press the key marked 'Titles,' and the machine will type all the main headings."

"That sounds reasonable." The long, grim-faced head nodded. The Dreegh reached forward, pressed the button. The recorder hummed softly, and a section of it lit up, showing typed lines under a transparent covering. There were several headings.

"—'His Meteorite Home,'" the Dreegh read. "That's what I want. What is the next step?"

"Press the key marked 'Subheads.'"

Leigh was suddenly shaky. He groaned inwardly. Was it possible this creature-man was going to obtain the information he wanted? Certainly, such a tremendous intelligence would not easily be led away from logical sequence.

He forced himself to grimness. He'd have to take a chance.

"The subhead I desire," said the Dreegh, "is marked 'Location.' And there is a number, one, in front of it. What next?"

"Press Key No. 1," Leigh said, "then press the key lettered 'General Release.'"

The moment he had spoken, he grew taut. If this worked—and it should. There was no reason why it shouldn't.

Key No. 1 would impart all the information under that heading. And surely the man would not want more until later. After all, this was only a test. They were in a hurry.

And later, when the Dreegh discovered that the "General Release" key had dissolved all the other information—it would be too late.

The thought dimmed. Leigh started. The Dreegh was staring at him with a bleak sardonicism. The man said:

"Your voice has been like an organ; each word uttered full of subtle shadings that mean much to the sensitive ear. Accordingly"—a steely, ferocious smile twisted that lean and deadly face—"I shall press Key No. 1. But not 'General Release.' And as soon as I've examined the little story on the recorder, I shall attend to you for that attempted trick. The sentence is—death."

"Jeell!"

"Death!" reiterated the man flatly. And the woman was silent.

There was silence, then, except for the subdued humming of the recorder. Leigh's mind was almost without thought. He felt fleshless, a strange, disembodied soul; and only gradually did a curious realization grow that he was waiting here on the brink of a night darker than the black wastes of space from which these monster humans had come.

Consciousness came of kinship with the black rain that poured with such solid, noiseless power against the glinting panes. For soon, he would

be part of the inorganic darkness—a shadowed figure sprawling sightlessly in this dim room.

His aimless gaze returned to the recorder machine, and to the grim man who stood so thoughtfully, staring down at the words it was unfolding.

His thought quickened. His life, that had been pressed so shockingly out of his system by the sentence of death, quivered forth. He straightened, physically and mentally. And, suddenly, there was purpose in him.

It death was inescapable, at least he could try again, somehow, to knock down that "General Release" key. He stared at the key, measuring the distance; and the gray thought came: What incredible irony that he should die, that he should waste his effort, to prevent the Dreeghs from having *this minute* information that was available from ten thousand sources. And yet—

The purpose remained. Three feet, he thought carefully, perhaps four. It he should fling himself toward it, how could even a Dreegh prevent the dead weight of his body and his extended fingers from accomplishing such a simple, straightforward mission?

After all, his sudden action had once before frustrated the Dreeghs, permitting the Ungarn girl—in spite of her denials—to get her gun into position for firing. And—

He grew rigid as he saw that the Dreegh was turning away from the machine. The man pursed his lips, but it was the woman, Merla, who spoke from where she stood in the gloom:

"Well?"

The man frowned. "The exact location is nowhere on record. Apparently, there has been no development of meteorites in this system. I suspected as much. After all, space travel has only existed a hundred years; and the new planets and the moons of Jupiter have absorbed all the energies of exploring, exploiting man."

"I could have told you that," said Leigh.

If he could move a little to one side of the recorder, so that the Dreegh would have to do more than simply put his arm out—

The man was saying: "There is, however, a reference to some man who transports food and merchandise from the moon Europa to the Ungarns. We will . . . er . . . persuade this man to show us the way."

"One of these days," said Leigh, "you're going to discover that all human beings cannot be persuaded. What pressure are you going to put on this chap? Suppose he hasn't got a mother."

"He has—life!" said the woman, softly.

"One look at you," Leigh snapped, "and he'd know that he'd lose that, anyway."

As he spoke, he stepped with enormous casualness to the left, one short step. He had a violent impulse to say something, anything to cover the action. But his voice had betrayed him once.

And actually it might already have done so again. The cold face of the man was almost too enigmatic.

"We could," said the woman, "use William Leigh to persuade him."

The words were softly spoken, but they shocked Leigh to his bones. For they offered a distorted hope. And that shattered his will to action. His purpose faded into remoteness. Almost grimly, he fought to draw that hard determination back into his consciousness. He concentrated his gaze on the recorder machine, but the woman was speaking again; and his mind wouldn't hold anything except the urgent meaning of her words:

"He is too valuable a slave to destroy. We can always take his blood and energy, but now we must send him to Europa, there to find the freighter pilot of the Ungarns, and actually accompany him to the Ungarn meteorite. If he could investigate the interior, our attack might conceivably be simplified, and there is just a possibility that there might be new weapons, of which we should be informed. We must not underestimate the science of the great Galactics.

"Naturally, before we allowed Leigh his freedom, we would do a little tampering with his mind, and so blot out from his conscious mind all that has happened in this hotel room.

"The identification of Professor Ungarn as the Galactic Observer we would make plausible for Leigh by a little re-writing of his psychograph report; and tomorrow he will waken in his bed with a new purpose, based on some simple human impulse such as love of the girl."

The very fact that the Dreegh, Jeel, was allowing her to go on, brought the first, faint color to Leigh's cheeks, a thin flush at the enormous series of betrayals she was so passionately expecting of him. Nevertheless, so weak was his resistance to the idea of continued life, that he could only snap:

"If you think I'm going to fall in love with a dame who's got twice my I. Q., you're—"

The woman cut him off. "Shut up, you fool! Can't you see I've saved your life?"

The man was cold, ice-cold. "Yes, we shall use him, not because he is essential, but because we have time to search for easier victories. The first members of the Dreegh tribe will not arrive for a month and a half, and it will take Mr. Leigh a month of that to get to the moon, Europa, by one of Earth's primitive passenger liners. Fortunately, the nearest Galactic military base is well over three months distant—by Galactic ship speeds.

"Finally"—with a disconcerting, tigerish swiftness, the Dreegh whirled full upon Leigh, eyes that were like pools of black fire measured his own startled stare—"finally, as a notable reminder to your subconscious of the error of trickery, and

as complete punishment for past and—intended—offenses, *this!*"

Despairingly, Leigh twisted away from the metal that glowed at him. His muscles tried horribly to carry out the purpose that had been working to a crisis inside him. He lunged for the recorder—but *something* caught his body. Something—not physical. But the very pain seemed mortal.

There was no visible flame of energy, only that glow at the metal source. But his nerves writhed; enormous forces contorted his throat muscles, froze the scream that quivered there, hideously.

His whole being welcomed the blackness that came mercifully to blot out the hellish pain.

VI.

On the third day, Europa began to give up some of the sky to the vast mass of Jupiter behind it. The engines that so imperfectly transformed magnetic attraction to a half-hearted repulsion functioned more and more smoothly as the infinite complication of pull and counterpull yielded to distance.

The old, slow, small freighter scurried on into the immense, enveloping night; and the days dragged into weeks, the weeks crawled their drab course toward the full month.

On the thirty-seventh day, the sense of slowing up was so distinct that Leigh crept dully out of his bunk, and croaked:

"How much farther?"

He was aware of the stolid-faced space trucker



grinning at him. The man's name was Hanardy, and he said now matter-of-factly:

"We're just pulling in. See that spot of light over to the left? It's moving this way."

He ended with a rough sympathy. "Been a tough trip, eh? Tougher'n you figgered when you offered to write up my little route for your big syndicate."

Leigh scarcely heard. He was clawing at the porthole, straining to penetrate the blackness. At first his eyes kept blinking on him, and nothing came. Stars were out there, but it was long seconds before his bleary gaze made out moving lights. He counted them with sluggish puzzlement:

"One, two, three—seven—" he counted. "And all traveling together."

"What's that?" Hanardy bent beside him. "Seven?"

There was a brief silence between them, as the lights grew visibly dim with distance, and winked out.

"Too bad," Leigh ventured, "that Jupiter's behind us. They mightn't fade out like that in silhouette. Which one was Ungarn's meteorite?"

With a shock, he grew aware that Hanardy was standing. The man's heavy face was dark with frown. Hanardy said slowly:

"Those were ships. I never saw ships go so fast before. They were out of sight in less than a minute."

The frown faded from his stolid face. He shrugged. "Some of those new police ships, I guess. And we must have seen them from a funny angle for them to disappear so fast."

Leigh half sat, half knelt, frozen into immobility. And after that one swift glance at the pilot's rough face, he averted his own. For a moment, the black fear was in him that his wild thoughts would blaze from his eyes.

Dreeghs! Two and a half months had wound their appallingly slow course since the murders. More than a month to get from Earth to Europa, and now this miserable, lonely journey with Hanardy, the man who trucked for the Ungarns.

Every day of that time, he had known with an inner certainty that none of this incredible business had gone backward. That it could only have assumed a hidden, more dangerous form. The one fortunate reality in the whole mad affair was that he had wakened on the morning after the mechanical psychologist test from a dreamless sleep; and there in the psychograph report was the identification of Ungarn as the Observer, and the statement, borne out by an all too familiar emotional tension, that he was in love with the girl.

Now this! His mind flared. Dreeghs in seven ships. That meant the first had been reinforced by—many. And perhaps the seven were only a

reconnaissance group, withdrawing at Hanardy's approach.

Or perhaps those fantastic murderers had already attacked the Observer's base. Perhaps the girl—

He fought the desperate thought out of his consciousness, and watched, frowning, as the Ungarn meteorite made a dark, glinting path in the blackness to one side. The two objects, the ship and the bleak, rough-shaped mass of metallic stone drew together in the night, the ship slightly behind.

A great steel door slid open in the rock. Skillfully, the ship glided into the chasm. There was a noisy clicking. Hanardy came out of the control room, his face dark with puzzlement.

"Those damn ships are out there again," he said. "I've closed the big steel locks, but I'd better tell the professor and—"

Crash! The world jiggled. The floor came up and hit Leigh a violent blow. He lay there, cold in spite of the thoughts that burned at fire heat, in his mind:

For some reason, the vampires had waited until the freighter was inside. Then instantly, ferociously, attacked.

In packs!

"Hanardy!" A vibrant girl's voice blared from one of the loud-speakers.

The pilot sat up shakily on the floor, where he had fallen, near Leigh. "Yes, Miss Patricia."

"You dared to bring a stranger with you!"

"It's only a reporter, miss; he's writing up my route for me."

"You conceited fool! That's William Leigh. He's a hypnotized spy of those devils who are attacking us. Bring him immediately to my apartments. He must be killed at once."

"Huh!" Leigh began; and then slowly he began to stiffen. For the pilot was staring at him from narrowing eyes, all the friendliness gone from his rough, heavy face. Finally, Leigh laughed curtly.

"Don't you be a fool, too, Hanardy. I made the mistake once of saving that young lady's life, and she's hated me ever since."

The heavy face scowled at him. "So you knew her before, eh? You didn't tell me, that. You'd better come along before I sock you one."

Almost awkwardly, he drew the gun from his side holster, and pointed its ugly snout at Leigh.

"Get along!" he said.

Hanardy reached toward a tiny arrangement of lights beside the paneled door of Patricia Ungarn's apartment—and Leigh gave one leap, one blow. He caught the short, heavy body as it fell, grabbed at the sagging gun, lowered the dead weight to the floor of the corridor; and then, for a grim, tense moment, he stood like a great animal, straining for sound.

Silence! He studied the bland panels of the doorway to the apartment, as if by sheer, savage intentness he would penetrate their golden, beautifully grained opaqueness.

It was the silence that struck him again after a moment, the emptiness of the long, tunnelloike corridors. He thought, amazed: Was it possible father and daughter actually lived here without companions or servants or any human association? And that they had some idea that they could withstand the attack of the mighty and terrible Dreeghs?

They had a lot of stuff here, of course: Earthlike gravity and—and, by Heaven, he'd better get going before the girl acquired impatience and came out with one of her fancy weapons. What he must do was quite simple, unconnected with any nonsense of spying, hypnotic or otherwise.

He must find the combination automobile-space-ship in which—Mr. Patrick—had escaped him that night after they left Constantine's. And with that tiny ship, he must try to slip out of Ungarn's meteorite, sneak through the Dreegh line, and so head back for Earth.

What a fool he had been, a mediocre human being, mixing in such fast, brainy company. The world was full of more normal, thoroughly dumb girls. Why in hell wasn't he safely married to one of them and—and damn it, it was time he got busy.

He began laboriously to drag Hanardy along the smooth flooring. Halfway to the nearest corner, the man stirred. Instantly, quite coolly, Leigh struck him with the revolver butt, hard. This was not time for squeamishness.

The pilot dropped; and the rest was simple. He deserted the body as soon as he had pulled it out of sight behind the corner, and raced along the hallway, trying doors. The first four wouldn't open. At the fifth, he pulled up in a dark consideration.

It was impossible that the whole place was locked up. Two people in an isolated meteorite wouldn't go around perpetually locking and unlocking doors. There must be a trick catch.

There was. The fifth door yielded to a simple pressure on a tiny, half-hidden push button, that had seemed an integral part of the design of the latch. He stepped through the entrance, then started back in brief, terrible shock.

The room had no ceiling. Above him was—space. An ice-cold blast of air swept at him.

He had a flashing glimpse of gigantic machines in the room, machines that dimly resembled the ultramodern astronomical observatory on the moon that he had visited on opening day two days before. That one, swift look was all Leigh allowed himself. Then he stepped back into the hallway. The door of the observatory closed automatically in his face.

He stood there, chagrined. Silly fool! The very

fact that cold air had blown at him showed that the open effect of the ceiling was only an illusion of invisible glass. Good Lord, in that room might be wizard telescopes that could see to the stars. Or—an ugly thrill raced along his spine—he might have seen the Dreeghs attacking.

He shook out of his system the brief, abnormal desire to look again. This was no time for distractions. For, by now, the girl must know that something was wrong.

At top speed, Leigh ran to the sixth door. It opened into a little cubbyhole. A blank moment passed before he recognized what it was.

An elevator!

He scrambled in. The farther he got away from the residential floor, the less the likelihood of quick discovery.

He turned to close the door, and saw that it was shutting automatically. It clicked softly; the elevator immediately began to go up. Piercingly sharp doubt came to Leigh. The machine was apparently geared to go to some definite point. And that could be very bad.

His eyes searched hastily for controls. But nothing was visible. Gun poised, he stood grim and alert, as the elevator stopped. The door slid open.

Leigh stared. There was no room. The door opened—onto blackness.

Not the blackness of space with its stars. Or a dark room, half revealed by the light from the elevator. But—blackness!

Impenetrable.

Leigh put a tentative hand forward, half expecting to feel a solid object. But as his hand entered the black area, it vanished. He jerked it back, and stared at it, dismayed. It shone with a light of its own, all the bones plainly visible.

Swiftly, the light faded, the skin became opaque, but his whole arm pulsed with a pattern of pain.

The stark, terrible thought came that this could be a death chamber. After all, the elevator had deliberately brought him here; it might not have been automatic. Outside forces could have directed it. True, he had stepped in of his own free will, but—

Fool, fool!

He laughed bitterly, braced himself—and then it happened.

There was a flash out of the blackness. Something that sparkled vividly, something material that blazed a brilliant path to his forehead—and drew itself inside his head. And then—

He was no longer in the elevator. On either side of him stretched a long corridor. The stocky Hanardy was just reaching for some tiny lights beside the door of Patricia Ungarn's apartment.

The man's fingers touched one of the lights. It dimmed. Softly, the door opened. A young woman

with proud, insolent eyes and a queenlike bearing stood there.

"Father wants you down on Level 4," she said to Hanardy. "One of the energy screens has gone down; and he needs some machine work before he can put up another."

She turned to Leigh; her voice took on metallic overtones as she said: "*Mr. Leigh, you can come in!*"

The crazy part of it was that he walked in with scarcely a physical tremor. A cool breeze caressed his cheeks; and there was the liltingly sweet sound of birds singing in the distance. Leigh stood stock-still for a moment after he had entered, dazed partly by the wonders of the room and the unbelievable sunlit garden beyond the French windows, partly by—what?

What had happened to him?

Gingerly, he put his hands to his head, and felt his forehead, then his whole head. But nothing was wrong, not a contusion, not a pain. He grew aware of the girl staring at him, and realization came that his actions must seem unutterably queer.

"What is the matter with you?" the girl asked.

Leigh looked at her with abrupt, grim suspicion. He snapped harshly: "Don't pull that innocent stuff. I've been up in the blackness room, and all I've got to say is, if you're going to kill me, don't skulk behind artificial night and other trickery."

The girl's eyes, he saw, were narrowed, unpleasantly cold. "I don't know what you're trying to pretend," she said icily. "I assure you it will not postpone the death we have to deal you."

She hesitated, then finished sharply: "The what room?"

Leigh explained grimly, puzzled by her puzzlement, then annoyed by the contemptuous smile that grew into her face. She cut him off curtly:

"I've never heard a less balanced story. If your intention was to astound me and delay your death with that improbable tale, it has failed. You must be mad. You didn't knock out Hanardy, because when I opened the door, Hanardy was there, and I sent him down to father."

"See here!" Leigh began. He stopped wildly. By Heaven, Hanardy had been there as she opened the door!

And yet earlier—

WHEN?

Doggedly, Leigh pushed the thought on: Earlier, he had attacked Hanardy. And then he—Leigh—had gone up in an elevator; and then, somehow, back and—

Shakily, he felt his head again. And it was absolutely normal. Only, he thought, there was something inside it that sparkled.

Something—

With a start, he grew aware that the girl was quite deliberately drawing a gun from a pocket of

her simple white dress. He stared at the weapon, and before its gleaming menace, his thoughts faded, all except the deadly consciousness that what he had said had delayed her several minutes now. It was the only thing that could delay her further until, somehow—

The vague hope wouldn't finish. Urgently, he said:

"I'm going to assume you're genuinely puzzled by my words. Let's begin at the beginning. There is such a room, is there not?"

"Please," said the girl wearily, "let us not have any of your logic. My I. Q. is 243, yours is 112. So I assure you I am quite capable of reasoning from any beginning you can think of."

She went on, her low voice as curt as the sound of struck steel: "There is no 'blackness' room, as you call it, no sparkling thing that crawls inside a human head. There is but one fact: The Dreeghs in their visit to your hotel room, hypnotized you; and this curious mind illusion can only be a result of that hypnotism—don't argue with me—"

With a savage gesture of her gun, she cut off his attempt to speak. "There's no time. For some reason, the Dreeghs did something to you. Why? What did you see in those rooms?"

Even as he explained and described, Leigh was thinking chilly:

He'd have to catch hold of himself, get a plan, however risky, and carry it through. The purpose was tight and cold in his mind as he obeyed her motion, and went ahead of her into the corridor. It was there, an icy determination, as he counted the doors from the corner where he had left the unconscious Hanardy.

"One, two, three, four, five. This door!" he said.

"Open it!" the girl gestured.

He did so; and his lower jaw sagged. He was staring into a fine, cozy room filled with shelf on shelf of beautifully bound books. There were comfortable chairs, a magnificent rag rug and—

It was the girl who closed the door firmly and—he trembled with the tremendousness of the opportunity—she walked ahead of him to the sixth door.

"And this is your elevator?"

Leigh nodded mutely; and because his whole body was shaking, he was only dimly surprised that there was no elevator, but a long, empty, silent corridor.

The girl was standing with her back partly to him; and if he hit her, it would knock her hard against the door jamb and—

The sheer brutality of the thought was what stopped him, held him for the barest second—as the girl whirled, and looked straight into his eyes.

Her gun was up, pointing steadily. "Not that

way," she said quietly. "For a moment I was wishing you would have the nerve to try it. But, after all, that would be the weak way for me."

Her eyes glowed with a fierce pride. "After all, I've killed before through necessity, and hated it. You can see yourself that, because of what the Dreeghs have done to you, it is necessary. So—"

Her voice took on a whiplash quality. "So back to my rooms. I have a space lock there to get rid of your body. Get going!"

It was the emptiness, the silence except for the faint click of their shoes that caught at Leigh's nerves, as he walked hopelessly back to the apartment. This meteorite hurtling darkly through the remote wastes of the Solar System, pursued and attacked by deadly ships from the fixed stars, and himself inside it, under sentence of death, the executioner to be a girl—

And that was the devastating part. He couldn't begin to argue with this damnable young woman, for every word would sound like pleading. The very thought of mentally getting down on his knees to any woman was paralyzing.

The singing of the birds, as he entered the apartment, perked him violently out of his black passion. Abruptly marveling, he walked to the stately French windows, and stared at the glorious summery garden.

At least two acres of green wonder spread before him, a blaze of flowers, trees where gorgeously colored birds fluttered and trilled, a wide, deep pool of green, green water, and over all, the glory of brilliant sunshine.

It was the sunshine that held Leigh finally; and he stood almost breathless for a long minute before it seemed that he had the solution. He said in a hushed voice, without turning:

"The roof—is an arrangement—of magnifying glass. It makes the Sun as big as on Earth. Is that the—"

"You'd better turn around," came the hostile, vibrant voice from behind him. "I don't shoot people in the back. And I want to get this over with."

It was the moralistic smugness of her words that shook every muscle in Leigh's body. He whirled, and raged:

"You damned little Klugg. You can't shoot me in the back, eh? Oh, no! And you couldn't possibly shoot me while I was attacking you because that would be the weak way. It's all got to be made right with your conscience."

He stopped so short that, if he had been running instead of talking, he would have stumbled. Figuratively, almost literally, he saw Patricia Ungarn for the first time since his arrival. His mind had been so concentrated, so absorbed by deadly things that—

—For the first time as a woman.

Leigh drew a long breath. Dressed as a man, she had been darkly handsome in an extremely youthful fashion. Now she wore a simple, snow-white sports dress. It was scarcely more than a tunic, and came well above her knees.

Her hair shone with a brilliant brownness, and cascaded down to her shoulders. Her bare arms and legs gleamed a deep, healthy tan. Sandals pure white graced her feet. Her face—

The impression of extraordinary beauty yielded to the amazing fact that her perfect cheeks were flushing vividly. The girl snapped:

"Don't you dare use that word to me."

She must have been utterly beside herself. Her fury was such an enormous fact that Leigh gasped; and he couldn't have stopped himself from saying what he did, if the salvation of his soul had depended on it.

"Klugg!" he said, "Klugg, Klugg, Klugg! So you realize now that the Dreeghs had you down pat, that all your mighty pretensions was simply your Klugg mind demanding pretentious compensation for a dreary, lonely life. You had to think you were somebody, and yet all the time you must have known they'd only ship the tenth-raters to these remote posts. Klugg, not even Lennel; the Dreegh woman wouldn't even grant you Lennel status, whatever that is. And she'd know. Because if you're I. Q. 243, the Dreeghs were 400. You've realized that, too, haven't you?"

"Shut up! Or I'll kill you by inches!" said Patricia Ungarn; and Leigh was amazed to see that she was as white as a sheet. The astounded realization came that he had struck, not only the emotional Achilles heel of this strange and terrible young woman, but the very vital roots of her mental existence.

"So," he said deliberately, "the high morality is growing dim. Now you can torture me to death without a qualm. And to think that I came here to ask you to marry me because I thought a Klugg and a human being might get along."

"You what?" said the girl. Then she sneered. "So that was the form of their hypnotism. They would use some simple impulse for a simple human mind."

"But now I think we've had just about enough. I know just the type of thoughts that come to a male human in love; and even the realization that you're not responsible makes the very idea none the less bearable. I feel sickened, utterly insulted. Know, please, that my future husband is arriving with the reinforcements three weeks from now. He will be trained to take over father's work—"

"Another Klugg!" said Leigh, and the girl turned shades whiter.

Leigh stood utterly thunderstruck. In all his life, he had never gotten anybody going the way he had this young girl. The intellectual mask



was off, and underneath was a seething mass of emotions bitter beyond the power of words to express. Here was evidence of a life so lonely that it strained his imagination. Her every word showed an incredible pent-up masochism as well as sadism, for she was torturing herself as well as him.

And he couldn't stop now to feel sorry for her. His life was at stake, and only more words could postpone death—or bring the swift and bearable surcease of a gun fired in sudden passion. He hammered on grimly:

"I'd like to ask one question. How did you find out my I. Q. was 112? What special interest made you inquire about that? Is it possible that, all by yourself here, you, too, had a special type of thought, and that, though your intellect rejected the very idea of such lowly love, its existence is the mainspring behind your fantastic determination to kill, rather than cure me? I—"

"That will do," interrupted Patricia Ungarn.

It required one lengthy moment for Leigh to realize that in those few short seconds she had pulled herself completely together.

He stared in gathering alarm, as her gun motioned toward a door he had not seen before.

She said curtly:

"I suppose there is a solution other than death. That is, immediate death. And I have decided to

accept the resultant loss of my spaceship."

She nodded at the door: "It's there in the air lock. It works very simply. The steering wheel pulls up or down or sideways, and that's the way the ship will go. Just step on the accelerator, and the machine will go forward. The decelerator is the left pedal. The automobile wheels fold in automatically as soon as they lift from the floor.

"Now, get going. I need hardly tell you that the Dreeghs will probably catch you. But you can't stay here. That's obvious."

"Thanks!" That was all Leigh allowed himself to say. He had exploded an emotional powder keg, and he dared not tamper even a single word further. There was a tremendous psychological mystery here, but it was not for him to solve.

Suddenly shaky from realization of what was still ahead of him, he walked gingerly toward the air lock. And then—

It happened!

He had a sense of unutterable nausea. There was a wild swaying through blackness and—

He was standing at the paneled doorway leading from the corridor to Patricia Ungarn's apartment. Beside him stood Hanardy. The door opened. The young woman who stood there said strangely familiar words to Hanardy, about going down to the fourth level to fix an energy screen. Then she turned to Leigh, and in a voice hard and metallic said:

"Mr. Leigh, you can come in."

VII.

The crazy part of it was that he walked in with scarcely a physical tremor. A cool breeze caressed his cheeks; and there was the liltingly sweet sound of birds singing in the distance. Leigh stood stock-still for a moment after he had entered; by sheer will power he emptied the terrible daze out of his mind, and bent, mentally, into the cyclone path of complete memory. Everything was there suddenly, the way the Dreeghs had come to his hotel apartment and ruthlessly forced him to their will, the way the "blackness" room had affected him, and how the girl had spared his life.

For some reason, the whole scene with the girl had been unsatisfactory to—Jeel; and it was now, fantastically, to be repeated.

That thought ended. The entire, tremendous reality of what had happened yielded to a vastly greater fact:

There was—something—inside his head, a distinctly physical something; and in a queer, horrible, inexperienced way, his mind was instinctively fighting—it. The result was ghastly confusion. Which hurt him, not the thing.

Whatever it was, rested inside his head, unaffected by his brain's feverish contortions, cold, aloof, watching.

Watching.

Madly, then, he realized what it was. Another mind. Leigh shrank from the thought as from the purest destroying fire. He tensed his brain. For a moment the frenzy of his horror was so great that his face twisted with the anguish of his efforts. And everything blurred.

Exhausted finally, he simply stood there. And the thing-mind was still inside his head.

Untouched.

What had happened to him?

Shakily, Leigh put his hands up to his forehead; then he felt his whole head; there was a vague idea in him that if he pressed—

He jerked his hands down with an unspoken curse. Damnation on damnation, he was even repeating the actions of this scene. He grew aware of the girl staring at him. He heard her say:

"What is the matter with you?"

It was the sound of the words, exactly the same words, that did it. He smiled wryly. His mind drew back from the abyss, where it had teetered.

He was sane again.

Gloomy recognition came then that his brain was still a long way down; sane yes, but dispirited. It was only too obvious that the girl had no memory of the previous scene, or she wouldn't be parrotting. She'd—

That thought stopped, too. Because a strange thing was happening. The mind inside him stirred, and looked through his—Leigh's—eyes. Looked intently.

Intently.

The room and the girl in it changed, not physically, but subjectively, in what he saw, in the—details.

Details burned at him; furniture and design that a moment before had seemed a flowing, artistic whole, abruptly showed flaws, hideous errors in taste and arrangement and structure.

His gaze flashed out to the garden, and in instants tore it to mental shreds. Never in all his existence had he seen or felt criticism on such a high, devastating scale. Only—

Only it wasn't criticism. Actually. The mind was indifferent. It saw things. Automatically, it saw some of the possibilities; and by comparison the reality suffered.

It was not a matter of anything being hopelessly bad. The wrongness was frequently a subtle thing. Birds not suited, for a dozen reasons, to their environment. Shrubs that added infinitesimal discord not harmony to the superb garden.

The mind flashed back from the garden; and this time, for the first time, studied the girl.

On all Earth, no woman had ever been so piercingly examined. The structure of her body and her face, to Leigh so finely, proudly shaped, so gloriously patrician—found low grade now.

An excellent example of low-grade development in isolation.

That was the thought, not contemptuous, not derogatory, simply an impression by an appallingly direct mind that saw—overtones, realities behind realities, a thousand facts where one showed.

There followed crystal-clear awareness of the girl's psychology, objective admiration for the system of isolated upbringing that made Klugg girls such fine breeders; and then—

Purpose!

Instantly carried out. Leigh took three swift steps toward the girl. He was aware of her snatching at the gun in her pocket, and there was the sheerest startled amazement on her face. Then he had her.

Her muscles writhed like steel springs. But they were hopeless against his superstrength, his super-speed. He tied her with some wire he had noticed in a half-opened clothes closet.

Then he stepped back, and to Leigh came the shocked personal thought of the incredible thing that had happened, comprehension that all this, which seemed so normal, was actually so devastatingly superhuman, so swift that—seconds only had passed since he came into the room.

Private thought ended. He grew aware of the mind, contemplating what it had done, and what it must do before the meteorite would be completely under control.

Vampire victory was near.

There was a phase of walking along empty corridors, down several flights of stairs. The vague, dull thought came to Leigh, his own personal thought, that the Dreegh seemed to know completely the interior of the meteorite.

Somehow, during the periods of—transition, of time manipulation, the creature-mind must have used his, Leigh's, body to explore the vast tomb of a place *thoroughly*. And now, with utter simplicity of purpose—he was heading for the machine shops on the fourth level, where Professor Ungarn and Hanardy labored to put up another energy defense screen.

He found Hanardy alone, working at a lathe that throbbed—and the sound made it easy to sneak up—

The professor was in a vast room, where great engines hummed a strange, deep tune of titanic power. He was a tall man, and his back was turned to the door, as Leigh entered.

But he was immeasurably quicker than Hanardy, quicker even than the girl. He sensed danger. He whirled with a catlike agility. Literally. And succumbed instantly to muscles that could have torn him limb from limb. It was during the binding of the man's hands that Leigh had time for an impression.

In the photographs that Leigh had seen, as he had told the Dreegh, Merla, in the hotel, the professor's face had been sensitive, tired-looking, withal noble. He was more than that, tremendously more.

The man radiated power, as no photograph could show it, *good* power in contrast to the savage, malignant, immensely greater power of the Dreegh.

The sense of power faded before the aura of—weariness. Cosmic weariness. It was a lined, an amazingly lined face. In a flash, Leigh remembered what the Dreegh woman had said; and it was all there: deep-graven lines of tragedy and untold mental suffering, interlaced with a curious peacefulness, like—resignation.

On that night months ago, he had asked the Dreegh woman: Resignation to what? And now, here in this tortured, kindly face was the answer: *Resignation to hell.*

Queerly, an unexpected second answer trickled in his mind: Morons; they're Galactic morons. Kluggs.

The thought seemed to have no source; but it gathered with all the fury of a storm. Professor Ungarn and his daughter were Kluggs, *morons* in the incredible Galactic sense. No wonder the girl had reacted like a crazy person. Obviously born here, she must have only guessed the truth in the last two months.

The I. Q. of human morons wavered between seventy-five and ninety, of Kluggs possibly between two hundred and twenty-five and, say, two hundred and forty-three.

Two hundred and forty-three. What kind of civilization was this Galactic—if Dreeghs were four hundred and—

Somebody, of course, had to do the dreary, routine work of civilization; and Kluggs and Lennels and their kind were obviously elected. No wonder they looked like morons with that weight of inferiority to influence their very nerve and muscle structure. No wonder whole planets were kept in ignorance—

Leigh left the professor tied hand and foot, and began to turn off power switches. Some of the great motors were slowing noticeably as he went out of that mighty engine room; the potent hum of power dimmed.

Back in the girl's room, he entered the air lock, climbed into the small automobile spaceship—and launched into the night.

Instantly, the gleaming mass of meteorite receded into the darkness behind him. Instantly, magnetic force rays caught his tiny craft, and drew it remorselessly toward the hundred and fifty foot, cigar-shaped machine that flashed out of the darkness.

He felt the spy rays; and he must have been

recognized. For another ship flashed up to claim him.

Air locks opened noiselessly—and shut. Sickly, Leigh stared at the two Dreeghs, the tall man and the tall woman; and, as from a great distance, heard himself explaining what he had done.

Dimly, hopelessly, he wondered why he should have to explain. Then he heard Jeel say:

"Merla, this is the most astoundingly successful case of hypnotism in our existence. He's done—everything. Even the tiniest thoughts we put into his mind have been carried out to the letter. And the proof is, the screens are going down. With the control of this station, we can hold out even after the Galactic warships arrive—and fill our tankers and our energy reservoirs for ten thousand years. Do you hear, *ten thousand years?*"

His excitement died. He smiled with sudden, dry understanding as he looked at the woman. Then he said laconically:

"My dear, the reward is all yours. We could have broken down those screens in another twelve hours, but it would have meant the destruction of the meteorite. This victory is so much greater. Take your reporter. Satisfy your craving—while the rest of us prepare for the occupation. Meanwhile, I'll tie him up for you."

Leigh thought, a cold, remote thought: The kiss of death—

He shivered in sudden, appalled realization of what he had done—

He lay on the couch, where Jeel had tied him. He was surprised, after a moment, to notice that, though the mind had withdrawn into the background of his brain—it was still there, cold, steely, abnormally conscious.

The wonder came: what possible satisfaction could Jeel obtain from experiencing the mortal thrill of death with him? These people were utterly abnormal, of course, but—

The wonder died like dry grass under a heat ray, as the woman came into the room, and glided toward him. She smiled; she sat down on the edge of the couch.

"So here you are," she said.

She was, Leigh thought, like a tigress. There was purpose in every cunning muscle of her long body. In surprise he saw that she had changed her dress. She wore a sleek, flimsy, sheeny, tight-fitting gown that set off in startling fashion her golden hair and starkly white face. Utterly fascinated, he watched her. Almost automatically, he said:

"Yes, I'm here."

Silly words. But he didn't feel silly. Tenseness came the moment he had spoken. It was her eyes that did it. For the first time since he had first seen her, her eyes struck him like a blow. Blue eyes, and steady. So steady. Not the steady

frankness of honesty. But steady—like dead eyes.

A chill grew on Leigh, a special, extra chill, adding to the ice that was already there inside him; and the unholy thought came that this was a dead woman—artificially kept alive by the blood and *life* of dead men and women.

She smiled, but the bleakness remained in those cold, fish eyes. No smile, no warmth could ever bring light to that chill, beautiful countenance. But she smiled the form of a smile, and she said:

"We Dreeghs live a hard, lonely life. So lonely that sometimes I cannot help thinking our struggle to remain alive is a blind, mad thing. We're what we are through no fault of our own. It happened during an interstellar flight that took place a million years ago—"

She stopped, almost hopelessly. "It seems longer. It must be longer. I've really lost track."

She went on, suddenly grim, as if the memory, the very telling, brought a return of horror: "We were among several thousand holidayers who were caught in the gravitational pull of a sun, afterward called the Dreegh sun.

"Its rays, immensely dangerous to human life, infected us all. It was discovered that only continuous blood transfusions, and the life force of other human beings could save us. For a while we received donations; then the government decided to have us destroyed as hopeless incurables.

"We were all young, terribly young and in love with life; some hundreds of us had been expecting the sentence, and we still had friends in the beginning. We escaped, and we've been fighting ever since to stay alive."

And still he could feel no sympathy. It was odd, for all the thoughts she undoubtedly wanted him to have, came. Picture of a bleak, endless existence in spaceships, staring out into the perpetual night; all life circumscribed by the tireless, abnormal needs of bodies gone mad from ravenous disease.

It was all there, all the emotional pictures. But no emotions came. She was too cold; the years and that devil's hunt had stamped her soul and her eyes and her face.

And besides, her body seemed tenser now, leaning toward him, bending forward closer, closer, till he could hear her slow, measured breathing. Even her eyes suddenly held the vaguest inner light—her whole being quivered with the chill tensivity of her purpose; when she spoke, she almost breathed the words:

"I want you to kiss me, and don't be afraid. I shall keep you alive for days, but I must have response, not passivity. You're a bachelor, at least thirty. You won't have any more morals about the matter than I. But you must let your whole body yield."

He didn't believe it. Her face hovered six inches

above his; and there was such a ferocity of suppressed eagerness in her that it could only mean death.

Her lips were pursed, as if to suck, and they quivered with a strange, tense, trembling desire, utterly unnatural, almost obscene. Her nostrils dilated at every breath—and no normal woman who had kissed as often as she must have in all her years could feel like that, if that was all she expected to get.

"Quick!" she said breathlessly. "Yield, yield!"

Leigh scarcely heard; for that other mind that had been lingering in his brain, surged forward in its incredible way. He heard himself say:

"I'll trust your promise because I can't resist such an appeal. You can kiss your head off. I guess I can stand it—"

There was a blue flash, an agonizing burning sensation that spread in a flash to every nerve of his body.

The anguish became a series of tiny pains, like small needles piercing a thousand bits of his flesh. Tingling, writhing a little, amazed that he was still alive, Leigh opened his eyes.

He felt a wave of purely personal surprise.

The woman lay slumped, lips half twisted off of his, body collapsed hard across his chest. And the mind, that blazing mind was there, watching—as the tall figure of the Dreegh man sauntered into the room, stiffened, and then darted forward.

He jerked her limp form into his arms. There was the same kind of blue flash as their lips met, from the man to the woman. She stirred finally, moaning. He shook her brutally.

"You wretched fool!" he raged. "How did you let a thing like that happen? You would have been dead in another minute, if I hadn't come along."

"I—don't—know." Her voice was thin and old. She sank down to the floor at his feet, and slumped there like a tired old woman. Her blond hair straggled, and looked curiously faded. "I don't know, Jeel. I tried to get his life force, and he got mine instead. He—"

She stopped. Her blue eyes widened. She staggered to her feet. "Jeel, he must be a spy. No human being could do a thing like that to me.

"Jeel"—there was sudden terror in her voice—"Jeel, get out of this room. Don't you realize? He's got my energy in him. He's lying there now, and whatever has control of him has my energy to work with—"

"All right, all right." He patted her fingers. "I assure you he's only a human being. And he's got your energy. You made a mistake, and the flow went the wrong way. But it would take much more than that for *anyone* to use a human body successfully against us. So—"

"You don't understand!"

Her voice shook. "Jeel, I've been cheating. I don't know what got into me, but I couldn't get enough life force. Every time I was able, during the four times we stayed on Earth, I sneaked out.

"I caught men on the street. I don't know exactly how many because I dissolved their bodies after I was through with them. But there were dozens. And he's got all the energy I collected, enough for scores of years, enough for—don't you see?—enough for *them*."

"My dear!" The Dreegh shook her violently, as a doctor would an hysterical woman. "For a million years, the great ones of Galactic have ignored us and—"

He paused. A black frown twisted his long face. He whirled like the tiger man he was, snatching at his gun—as Leigh stood up.

The man Leigh was no longer surprised at—anything. At the way the hard cords fell rotted from his wrists and legs. At the way the Dreegh froze rigid after one look into his eyes. For the first shock of the tremendous, the almost cataclysmic truth was already in him.

"There is only one difference," said Leigh in a voice so vibrant that the top of his head shivered from the unaccustomed violence of sound. "This time there are two hundred and twenty-seven Dreegh ships gathered in one concentrated area. The rest—and our records show only a dozen others—we can safely leave to our police patrols."

The Great Galactic, who had been William Leigh, smiled darkly and walked toward his captives. "It has been a most interesting experiment in deliberate splitting of personality. Three years ago, our time manipulators showed this opportunity of destroying the Dreeghs, who hitherto had escaped by reason of the vastness of our galaxy.

"And so I came to Earth, and here built up the character of William Leigh, reporter, complete with family and past history. It was necessary to withdraw into a special compartment of the brain some nine-tenths of my mind, and to drain completely an equal percentage of life energy.

"That was the difficulty. How to replace that energy in sufficient degree at the proper time, without playing the role of vampire. I constructed a number of energy caches, but naturally at no time had we been able to see all the future. We could not see the details of what was to transpire aboard this ship, or in my hotel room that night you came, or under Constantine's restaurant.

"Besides, if I had possessed full energy as I approached this ship, your spy ray would have registered it; and you would instantly have destroyed my small automobile-spaceship.

"My first necessity, accordingly, was to come to the meteorite, and obtain an initial control over my own body through the medium of what my

Earth personality called the 'blackness' room.

"That Earth personality offered unexpected difficulties. In three years it had gathered momentum as a personality, and that impetus made it necessary to repeat a scene with Patricia Ungarn, and to appear directly as another conscious mind, in order to convince Leigh that he must yield. The rest of course was a matter of gaining additional life energy after boarding your ship, which"—he bowed slightly at the muscularly congealed body of the woman—"which she supplied me.

"I have explained all this because of the fact that a mind will accept complete control only if full understanding of—defeat—is present. I must finally inform you, therefore, that you are to remain alive for the next few days, during which time you will assist me in making personal contact with your friends."

He made a gesture of dismissal: "Return to your normal existence. I have still to co-ordinate my two personalities completely, and that does not require your presence."

The Dreeghs went out blank-eyed, almost briskly; and the two minds in one body were—alone!

For Leigh, the Leigh of Earth, the first desperate shock was past. The room was curiously dim, as if he was staring out through eyes that were no longer—his!

He thought, with a horrible effort at self-control: "I've got to fight. Some *thing* is trying to possess my body. All the rest is lie."

A soothing, mind-pulsation stole into the shadowed chamber where his—self—was cornered:

"No lie, but wondrous truth. You have not seen what the Dreeghs saw and felt, for you are inside this body, and know not that it has come marvelously *alive*, unlike anything that your petty dreams on Earth could begin to conceive. You must accept your high destiny, else the sight of your own body will be a terrible thing to you. Be calm, be braver than you've ever been, and pain will turn to joy."

Calm came not. His mind quivered in its dark corner, abnormally conscious of strange and unnatural pressures that pushed in at it like winds out of unearthly night. For a moment of terrible fear, it funkcd that pressing night, then forced back to sanity, and had another thought of its own, a grimly cunning thought:

The devilish interloper was arguing. Could that mean—his mind rocked with hope—that co-ordination was impossible without *his* yielding to clever persuasion.

Never would he yield.

"Think," whispered the alien mind, "think of being one valuable facet of a mind with an I. Q. twelve hundred, think of yourself as having played a role; and now you are returning to normalcy, a

normalcy of unlimited power. You have been an actor completely absorbed in your role, but the play is over; you are alone in your dressing room removing the grease paint; your mood of the play is fading, fading, fading—"

"Go to hell!" said William Leigh, loudly. "I'm William Leigh, I. Q. one hundred and twelve, satisfied to be just what I am. I don't give a damn whether you built me up from the component elements of your brain, or whether I was born normally. I can just see what you're trying to do with that hypnotic suggestion stuff, but it isn't working. I'm here, I'm myself, and I stay myself. Go find yourself another body, if you're so smart."

Silence settled where his voice had been; and the emptiness, the utter lack of sound brought a sharp twinge of fear greater than that which he had had before he spoke.

He was so intent on that inner struggle that he was not aware of outer movement until—

With a start he grew aware that he was staring out of a port window. Night spread there, the living night of space.

A trick, he thought in an agony of fear; a trick somehow designed to add to the corroding power of hypnotism.

A trick! He tried to jerk back—and, terrifyingly, couldn't. His body wouldn't move. Instantly, then, he tried to speak, to crash through that enveloping blanket of unholy silence. But no sound came.

Not a muscle, not a finger stirred; not a single nerve so much as trembled.

He was alone.

Cut off in his little corner of brain.

Lost.

Yes, lost, came a strangely pitying sibilation of thought, lost to a cheap, sordid existence, lost to a life whose end is visible from the hour of birth, lost to a civilization that has already had to

be saved from itself a thousand times. Even you, I think, can see that all this is lost to you forever—

Leigh thought starkly: The *thing* was trying by a repetition of ideas, by showing evidence of defeat, to lay the foundations of further defeat. It was the oldest trick of simple hypnotism for simple people. And he couldn't let it work—

You have, urged the mind inexorably, accepted the fact that you were playing a role; and now you have recognized our oneness, and are giving up the role. The proof of this recognition on your part is that you have yielded control of—our—body.

—Our body, *our* body, OUR body—

The words re-echoed like some Gargantuan sound through his brain, then merged swiftly into that calm, other-mind pulsation:

—concentration. All intellect derives from the capacity to concentrate; and, progressively, the body itself shows *life*, reflects and focuses that gathering, vaulting power.

—One more step remains: You must see—

Amazingly, then, he was staring into a mirror. Where it had come from, he had no memory. It was there in front of him, where, an instant before, had been a black porthole—and there was an image in the mirror, shapeless at first to his blurred vision.

Deliberately—he felt the enormous deliberateness—the vision was cleared for him. He saw—and then he didn't.

His brain wouldn't look. It twisted in a mad desperation, like a body buried alive, and briefly, horrendously conscious of its fate. Insanely, it fought away from the blazing thing in the mirror. So awful was the effort, so titanic the fear, that it began to gibber mentally, its consciousness to whirl dizzily, like a wheel spinning faster, faster—

The wheel shattered into ten thousand aching fragments. Darkness came, blacker than Galactic night. And there was—

Oneness!

THE END.

THE ANALYTICAL LABORATORY

The argument for place this month was, again, a hotly contested one, as the point-scores show. High point-scores mean a scattered vote; every story on the list got at least one vote for first place, and nearly every story on the list got a vote of "Get the hook!" from somebody. The analysis shows:

Place	Story	Author	Points
1.	Recruiting Station	A. E. van Vogt	2.58
2.	Wings of Night	Lester del Rey	2.80
3.	Goldfish Bowl	A. MacDonald	3.1
4.	Day After Tomorrow	Roby Wentz	3.55
5.	Runaround	Isaac Asimov	3.81

The Editor.



FOREVER IS NOT SO LONG

By F. Anton Reeds

● Given that much-sought knowledge of the future, how many would have courage to enjoy what life was to be theirs?

Illustrated by Orban

September, 1931.

The lights of Europe still burned.

The black hulk of Ploving Manor was broken by the squares of brilliant, friendly light from its many windows that gave the old country seat almost a cheerful aspect. From the stone terrace to the south of Professor Ploving's study long strings of bobbing, soft-glowing lanterns stretched across the close-cropped lawn to the dark outline of the orchard. Beyond the orchard was the pounding beat of the Channel.

On a platform under the lights young men and young women danced to the strange new throbbing music from the Americas. It was a pulsing tom-tom beat, that music, that called for a measure of gay abandon and a great deal of muscular dexterity. But not quite the same sort of abandon that their mothers and father had known. For those lovely women at the terrace tables and the gray-templed men at their sides had been the fabulous, almost forgotten "lost generation" of an almost forgotten "post-war" period. These young-

sters dancing under the English stars and pressing hands in the orchard's shadow were the fortunate chosen ones who would build at last the brave new world that had been their fathers' dream.

Stephen Darville stood in the shadows of a great clump of rhododendrons at the terrace edge watching the swirl of color on the lawn, his eyes searching the laughing crowd for a sight of Jean. His eyes found her and followed her across the lawn. When she came near he called her name.

She hurried to him and took his hands in a friendly tug.

"One dance together, Steve, before you go out to the workshop."

He shook his head.

"Just one," she pleaded.

He pressed her hands, watching the way the stiff sea breeze ruffled the gay silk kerchief at her throat.

"There's no time. Your father's waiting for me now."

"Confound father, confound you and confound science."

She laughed, but there had been a note of real annoyance in her voice.

Darville looked at the soft curve of her throat and the light-lighted sheen of her close-cropped brown hair and beyond the moving figures on the lawn. He suddenly wanted it all; the music and the laughter and the gaiety and the feel of her in his arms. But he wanted the other, too; the thing that awaited him out there in John Ploving's workshop. The feel of metal cold in his hands, metal that his own hands had helped to shape, and the crazy swaying of the thin needles on the control board before him. The age-old call of the twin, conflicting fires in the blood of youth—Duty and Romance.

She, too, was looking out toward the dancing couples. He took her impulsively in his arms and for a moment she clung to him.

"You can come back to me later on this evening when you and father are through," she whispered.

He wanted to crush her to him, wanted to whisper "If I do come back, if there is a 'later on this evening' for me." But he only pressed her fingers lightly.

"Save me a dance," he said, and hurried away down the narrow path to Professor Ploving's shop.

The things that Professor Ploving and his young assistant did there in the shop were known only to themselves; even those in the immediate family had long ago learned to ask no questions and, above all, never to "snoop." Ploving was no more immune than others to longings for fame, but years of observing with his keen, analytical mind the affairs of men both in and out of laboratories, had taught him caution. A professor of the august University of London, even a professor of inde-

pendent wealth and impeccable family, could hardly dare lay himself open to ridicule.

Had he been seeking to release atomic energy he could have spoken glibly and weightily of corpuscular radiations and electrodes and atom-smashing and even the news-reporters would have managed to splash him upon the Sunday feature pages as a brainy and adventurous fellow and a chap to know. But let him once point to his much discussed mathematical equations on his theory of the time-curve and suggest that he intended to utilize his theory in a most practical way and the world, he knew, would shout "time machine" and "crackpot." For time machines, in 1931, were things to be left to H. G. Wells and to the rising crop of talented and imaginative English and American fantasy writers. It was no doings for a man of action and, above all, for a man of science.

Steve Darville closed the workshop door behind him, muting the tom-tom rhythms of the music from the terrace lawn.

The Ploving Tube stood with its small door, not unlike the door of a Channel transport plane, swinging open. The professor was beside it, wiping his glasses on a linen kerchief, trying to hide the nervousness that made the knotty blue veins of his hands jerk spasmodically. He had thrown open the small window at the south wall and through it Steve caught a glimpse of the rooftops of the newly-built Ploving Laboratories which lay just under the hill, almost beside the Channel. The laboratories that were to mean so much—or nothing.

Intricate calculations, founded upon his own theories of the "time-curve," had been utilized by Professor Ploving in creation of the Ploving Tube, a cylinder most undramatic in appearance. But the heart of the tube was the tiny Ploving Button, a small incased mechanism no more than an inch in thickness and a couple of inches in diameter. If the tube were to be a success, it must depend upon that one tiny button.

The button in the present tube was the result of nearly ten years of intensive labor. If it failed, another five to ten years would be needed to duplicate the experiment. According to his figures, Ploving felt the button capable of sending the tube no more than ten years into the future and return.

The professor's plan, based upon that single assumption, was unique.

Already the first wing of the new Ploving Laboratories was complete. There, in the building that would absorb nearly his entire fortune, the carefully assembled corps of young experimenters would work night and day to perfect the Ploving Button, although they could only guess at its ultimate purpose. Within ten years, if things went well, Ploving felt that a button should have been developed capable of opening the entire time-curve to the adventurous exploration of mankind.

"But I'm an old man," the professor had snorted in the confidence of the little workshop. "I've no time to be dawdling about for a decade waiting for something to happen."

The Ploving plan was as simple as it was astounding. He meant to use that single button already created to go ten years into the future, take the finished products of his laboratories—the Ploving Button of ten years hence—return with them to his own time and proudly present them to their creators, the technicians who were so far only fumbling with the problem of their perfection.

The technicians would "save" themselves ten years of labor and the new sweeping highway into the future and the past would be open to mankind within the life of its discoverer.

Only cold, inexorable logic kept the old man from insisting that he should be at the controls when the Ploving Tube met its first test. But logic was a god to whom the professor could always bow gracefully, if grudgingly, and logic certainly dictated the need for youthful co-ordination and strength during those fateful moments that could advance the scope of man's knowledge by a decade.

Ploving had conveyed his decision to his younger colleague only the day before in his characteristic way.

"You're elected, young man, by a unanimous vote of two."

Steve Darville, gazing past Professor Ploving to the moonlit scene beyond the window, wondered what changes ten years would have wrought. There could be little alteration in the immediate vicinity of the workshop, he knew, for the cautious professor had taken no chances. His iron law had decreed that nothing be erected or remodeled or torn away in the vicinity of the workshop; the provision, as an added precaution, being incorporated as the first item in his will.

The professor fumbled with his spectacles, managed at last to place them upon his nose at an unaccustomed angle, and coughed hesitatingly.

"Ready?" he asked.

"Ready," Darville told him, and turned to the tube.

It was a moment made for drama, but there was no time for drama. He climbed into the narrow tube, strapped himself into the awkward jump-seat and carefully checked the dial readings on the control panel before him. He nodded without glancing out toward the professor, jerked his hand in a quick salute and closed the tube's door.

For a single moment he thought of the music and laughter out on the lawn beyond, the laughter and music he was missing tonight as he had been missing them for so many nights on end. But in the moment that he eased the control stick toward

him he knew that it had been a small price for this moment. One hour more, less than an hour, and there would be time again for music and laughter and cool arms—or no longer need of them.

The thin needles vibrated to life, swayed crazily across the faces of compact dials and as suddenly hesitated and stopped. To the man within the tube it seemed impossible that anything could have happened in those seconds. It was ludicrous; a moment more, he knew, and he must step out to face the heartbreak in the eyes of the kindly old man waiting just outside those thin metal walls.

To open that door required a kind of courage Darville had never needed before and for seconds he hesitated, prolonging the moment. What could he say to the broken man at the other side of that door, what would there be to say? His white-knuckled fist twisted the latch, threw the door open almost rudely.

The workshop was dark, save for soft moonlight that flooded across a section of the floor from a gaping hole in the roof and farther wall. Rubble lay in heaps over the shop; broken plaster and crumbled bricks and twisted, jagged fingers of steel.

He had to pick his way among them as he sought the old familiar path beyond that gaping splotch of moonlight.

The path, too, was strewn with rubble and beyond the path a black, pitted hole yawned among the broken, uprooted trees that had been the orchard—was it only a few minutes ago? Darville rubbed a hand across his face, pulling roughly at his cheeks with thumb and fingers. Instinctively he wheeled toward the booming reverberation of the Channel, toward the costly Ploving Laboratories that were his goal.

He felt suddenly sick and tired and old.

They, too, were gone; a single tall chimney, like a blackened finger against the moon-swept sky, was all that marked the site of the first great sprawling wing that had been the crux of Ploving's dream.

Ploving, Jean, where were they?

Blindly, almost running, Darville stumbled up the path toward the south lawn, then stood weak and trembling at the edge of the twisted, fire-scorched orchard, gazing toward the bulk of Ploving Manor across the lawn that had been, for him, only minutes ago aglow with the soft light of swinging lanterns.

The manor was in ruins; a black, blind, toothless hag squatting in sullen anger against the rolling meadow—windowless, fire-charred, forlorn. As though his body moved to some other will than his own, Darville walked slowly across that barren lawn toward the house.

He was almost within one of the gaping doorways, the doorway to old Ploving's study, before his keen eyes caught the faint glimmer of yellow

light from a single crack at the foot of the cellar stairs. Light meant human beings who could tell him the things he dreaded to hear yet must know. Running down the steps he tried the door and, finding it locked, beat upon it with his fists.

The crack of light suddenly expanded and through the partially opened doorway Darville saw the ugly snout of an automatic trained at his ribs. His eyes followed the uniformed arm upward to the insignia on the shoulder and to the stiff, tired face of the young officer who eyed him questioningly. The automatic waved him inside and the door was shut quickly behind him.

Within the smoke-filled room several men, all in uniform, sat about a table. Together they turned to stare at the newcomer. But it was the face of the lanky major with the shrapnel scar jagged across a cheek, that held Stephen Darville riveted. The major's lips were opened, as if to speak, and his eyes dilated strangely.

Darville watched the man shake his head to clear away the sudden paralysis; saw his eyes soften.

"Sorry," the major said, rising. "Terribly sorry. But fact is, you look remarkably like a chap I soldiered with in Flanders. Died the last night of Dunkirk. Blown to bits. Shame, too. A brilliant fellow. Scientist of promise, I believe, before the war. You're a good ten years or so younger of course, but the resemblance is uncanny."

The lanky major hesitated awkwardly.

"I say, you couldn't be— But no, I remember he was an only child."

The tension had broken. A stubby fellow in captain's uniform turned to his superior officer.

"You don't mean Darville, do you? Steve Darville?"

The major nodded.

"Funny," the captain said. "I never met Darville, you know. But last fortnight I bumped into his wife. Plovig her name was. Plucky. Air warden in the Dover area. Caught hell there. Lost an arm eight months ago, but do you know, she wouldn't quit. Not her. Back on duty and one of the best they've got."

Steve Darville stumbled blindly to the door and up the steps. Out on the path he did not turn to look back at the shell of the manor, black and gaunt and desolate against the sky.

His hands shook as he reset the dial readings and pulled the control. He saw the needles sway and dance. He was hardly aware of it when they ceased swaying. Numbly he reached for the door latch.

Inside the workshop was the bright glow of bulbs. A stiff breeze blew in at the open window. Instinctively, Darville glanced at his wrist watch. He had been away, in that future that was not his future, for less than three-quarters of an hour.

Professor Plovig's eyes met his, read the frustration there. The older man said nothing, but put a hand out to the smooth surface of the tube and buried his face in his arm.

Darville slipped quietly out of the workshop and up the familiar path, moonlight-flooded between the orchard trees. At the orchard's edge he halted; stood listening to the gay abandon of the music and the voices, searching that blob of light and color for Jean. She was standing at the edge of the lawn, a little apart from the others.

Stephen Darville went to her quickly, smothered her cry of pleased surprise with a quick kiss and led her to the jerry-built dance floor. Together they caught the tom-tom rhythm, moved into the circling stream of the dancers.

"Steve," she said, her voice eager, "do you have to go back tonight?"

"Not tonight or ever," he said.

"Steve!"

"From now on, young one, I have time only for you."

"Steve," she cried. Her arm pressed him, her hand squeezed his. "We'll be the happiest people in the world, Steve. The happiest, gayest, most in love two people in the world. And we'll go on being that, Steve—forever."

Two trumpets were taking a hot chorus, unmuted, their notes sharp and high and quivering.

"Forever," he said.

THE END.



NO FINER DRINK IN TOWN OR COUNTRY



Purity...in the big bottle — that's Pepsi-Cola!



FOUNDATION

By Isaac Asimov

● It's a characteristic of a decadent civilization that their "scientists" consider all knowledge already known—that they spend their time making cyclopedic gatherings of that knowledge. But that Foundation was something rather tricky—

Illustrated by M. Isip

Hari Seldon was old and tired. His voice, roared out though it was, by the amplifying system, was old and tired as well.

There were few in that small assemblage that did not realize that Hari Seldon would be dead before the next spring. And they listened in respectful silence to the last official words of the Galaxy's greatest mind.

"This is the last meeting," that tired voice said, "of the group I had called together over twenty years ago." Seldon's eyes swept the seated scientists. He was alone on the platform, alone in the wheel chair to which a stroke had confined him two years before, and on his lap was the last volume—the fifty-second—of the minutes of previous meetings. It was opened to the last page.

He continued: "The group I called together represented the best the Galactic Empire could offer of its philosophers, its psychologists, its historians, and its physical scientists. And in the twenty years since, we have considered the greatest problem ever to confront any group of fifty men—perhaps the greatest ever to confront any number of men.

"We have not always agreed on methods or on procedure. We have spent months and, doubtless, years on futile debates over relatively minor issues. On more than one occasion, sizable sections of our group threatened to break away altogether.

"And yet"—his old face lit in a gentle smile—"we solved the problem. Many of the original members died and were replaced by others. Schemes were abandoned; plans voted down; procedures proven faulty.

"Yet we solved the problem; and not one member, while yet alive, left our group. I am glad of that."

He paused, and allowed the subdued applause to die.

"We have done; and our work is over. The

Galactic Empire is falling, but its culture shall not die, and provision has been made for a new and greater culture to develop therefrom. The two Scientific Refuges we planned have been established: one at each end of the Galaxy, at Terminus and at Star's End. They are in operation and already moving along the inevitable lines we have drawn for them.

"For us is left only one last item, and that fifty years in the future. That item, already worked out in detail, will be the instigation of revolts in the key sectors of Anacreon and Loris. It will set that final machinery in motion to work itself out in the millennium that follows."

Hari Seldon's tired head dropped. "Gentlemen, the last meeting of our group is hereby adjourned. We began in secret; we have worked throughout in secret; and now end in secret—to wait for our reward a thousand years hence with the establishment of the Second Galactic Empire."

The last volume of minutes closed, and Hari Seldon's thin hand fell away from it.

"I am finished!" he whispered.

Lewis Pirenne was busily engaged at his desk in the one well-lit corner of the room. Work had to be co-ordinated. Effort had to be organized. Threads had to be woven into a pattern.

Fifty years now; fifty years to establish themselves and set up Encyclopedia Foundation Number One into a smoothly working unit. Fifty years to gather the raw material. Fifty years to prepare.

It had been done. Five more years would see the publication of the first volume of the most monumental work the Galaxy had ever conceived. And then at ten-year intervals—regularly—like clockwork—volume after volume after volume. And with them there would be supplements; special articles on events of current interest, until—



Pirenne stirred uneasily, as the muted buzzer upon his desk muttered peevishly. He had almost forgotten the appointment. He shoved the door release and out of an abstracted corner of one eye saw the door open and the broad figure of Salvor Hardin enter. Pirenne did not look up.

Hardin smiled to himself. He was in a hurry, but he knew better than to take offense at Pirenne's cavalier treatment of anything or anyone that disturbed him at his work. He buried himself in the chair on the other side of the desk and waited.

Pirenne's stylus made the faintest scraping sound as it raced across paper. Otherwise, neither motion nor sound. And then Hardin withdrew a two-credit coin from his vest pocket. He flipped it and its stainless-steel surface caught glitters of light as it tumbled through the air. He caught it and flipped it again, watching the flashing reflections lazily. Stainless steel made good medium of exchange on a planet where all metal had to be imported.

Pirenne looked up and blinked. "Stop that!" he said querulously.

"Eh?"

"That infernal coin tossing. Stop it."

"Oh." Hardin pocketed the metal disk. "Tell me when you're ready, will you? I promised to be back at the City Council meeting before the new aqueduct project is put to a vote."

Pirenne sighed and shoved himself away from the desk. "I'm ready. But I hope you aren't going to bother me with city affairs. Take care of that yourself, please. The Encyclopedia takes up all my time."

"Have you heard the news?" questioned Hardin, phlegmatically.

"What news?"

"The news that the Terminus City ultrawave set received two hours ago. The Royal Governor of the Prefect of Anacreon has assumed the title of king."

"Well? What of it?"

"It means," responded Hardin, "that we're cut

off from the inner regions of the Empire. Do you realize that Anacreon stands square across what was our last remaining trade route to Santanni and to Trantor and to Vega itself? Where is our metal to come from? We haven't managed to get a steel or aluminum shipment through in six months and now we won't be able to get any at all, except by grace of the King of Anacreon."

Pirenne *tch-tched* impatiently. "Get them through him, then."

"But can we? Listen, Pirenne, according to the charter which established this Foundation, the Board of Trustees of the Encyclopedia Committee has been given full administrative powers. I, as Mayor of Terminus City, have just enough power to blow my own nose and perhaps to sneeze if you countersign an order giving me permission. It's up to you and your Board then. I'm asking you in the name of the City, whose prosperity depends upon uninterrupted commerce with the Galaxy, to call an emergency meeting—"

"Stop! A campaign speech is out of order. Now, Hardin, the Board of Trustees has not barred the establishment of a municipal government on Terminus. We understand one to be necessary because of the increase in population since the Foundation was established fifty years ago, and because of the increasing number of people involved in non-Encyclopedia affairs. But that does not mean that the first and *only* aim of the Foundation is no longer to publish the definitive Encyclopedia of all human knowledge. We are a State-supported, scientific institution, Hardin. We cannot—must not—*will* not interfere in local politics."

"Local politics! By the Emperor's left big toe, Pirenne, this is a matter of life and death. The planet, Terminus, by itself cannot support a mechanized civilization. It lacks metals. You know that. It hasn't a trace of iron, copper, or aluminum in the surface rocks, and precious little of anything else. What do you think will happen to the Encyclopedia if this whatchamacallum King of Anacreon clamps down on us?"

"On us? Are you forgetting that we are under the direct control of the Emperor himself? We are not part of the Prefect of Anacreon or of any other prefect. Memorize that! We are part of the Emperor's personal domain, and no one touches us. The Empire can protect its own."

"Then why didn't it prevent the Royal Governor of Anacreon from kicking over the traces? And only Anacreon? At least twenty of the outermost prefects of the Galaxy, the entire Periphery as a matter of fact, have begun steering things their own way. I tell you I feel darned uncertain of the Empire and its ability to protect us."

"Hokum! Royal Governors, Kings—what's the difference? The Empire is always shot through

with a certain amount of politics and with different men pulling this way and that. Governors have rebelled, and, for that matter, Emperors have been deposed or assassinated before this. But what has that to do with the Empire itself? Forget it, Hardin. It's none of our business. We are first of all and last of all—scientists. And our concern is the Encyclopedia. Oh, yes, I'd almost forgotten. Hardin!"

"Well?"

"Do something about that paper of yours!" Pirenne's voice was angry.

"The Terminus City *Journal*? It isn't mine; it's privately owned. What's it been doing?"

"For weeks now it has been recommending that the fiftieth anniversary of the establishment of the Foundation be made the occasion for public holidays and quite inappropriate celebrations."

"And why not? The radium clock will open the First Vault in three months. I would call that a big occasion, wouldn't you?"

"Not for silly pageantry, Hardin. The First Vault and its opening concern the Board of Trustees alone. Anything of importance will be communicated to the people. That is final and please make it plain to the *Journal*."

"I'm sorry, Pirenne, but the City Charter guarantees a certain minor matter known as freedom of the press."

"It may. But the Board of Trustees does not. I am the Emperor's representative on Terminus, Hardin, and have full powers in this respect."

Hardin's expression became that of a man counting to ten, mentally. He said grimly: "In connection with your status as Emperor's representative, then, I have a final piece of news to give you."

"About Anacreon?" Pirenne's lips tightened. He felt annoyed.

"Yes. A special envoy will be sent to us from Anacreon. In two weeks."

"An envoy? Here? From Anacreon?" Pirenne chewed that. "What for?"

Hardin stood up, and shoved his chair back up against the desk. "I give you one guess."

And he left—quite unceremoniously.

Anselm haut Rodric—"haut" itself signifying noble blood—Sub-prefect of Pluema and Envoy Extraordinary of his Highness of Anacreon—plus half a dozen other titles—was met by Salvor Hardin at the spaceport with all the imposing ritual of a state occasion.

With a tight smile and a low bow, the sub-prefect had flipped his blaster from its holster and presented it to Hardin butt first. Hardin returned the compliment with a blaster specifically borrowed for the occasion. Friendship and good will were thus established, and if Hardin noted

the barest bulge at Haut Rodric's shoulder, he prudently said nothing.

The ground car that received them then—preceded, flanked, and followed by the suitable cloud of minor functionaries—proceeded in a slow, ceremonious manner to Cyclopedia Square, cheered on its way by a properly enthusiastic crowd.

Sub-prefect Anselm received the cheers with the complaisant indifference of a soldier and a nobleman.

He said to Hardin, "And this city is all your world?"

Hardin raised his voice to be heard above the clamor. "We are a young world, your eminence. In our short history we have had but few members of the higher nobility visiting our poor planet. Hence, our enthusiasm."

It is certain that "higher nobility" did not recognize irony when he heard it.

He said thoughtfully: "Founded fifty years ago. Hm-m-m! You have a great deal of unexploited land here, mayor. You have never considered dividing it into estates?"

"There is no necessity as yet. We're extremely centralized; we have to be, because of the Encyclopedia. Some day, perhaps, when our population has grown—"

"A strange world! You have no peasantry?"

Hardin reflected that it didn't require a great deal of acumen to tell that his eminence was indulging in a bit of fairly clumsy pumping. He replied casually, "No—nor nobility."

Haut Rodric's eyebrows lifted. "And your leader—the man I am to meet?"

"You mean Dr. Pirenne? Yes! He is the Chairman of the Board of Trustees—and a personal representative of the Emperor."

"Doctor? No other title? A scholar? And he rates above the civil authority?"

"Why, certainly," replied Hardin, amiably. "We're all scholars more or less. After all, we're not so much a world as a scientific foundation—under the direct control of the Emperor."

There was a faint emphasis upon the last phrase that seemed to disconcert the sub-prefect. He remained thoughtfully silent during the rest of the slow way to Cyclopedia Square.

If Hardin found himself bored by the afternoon and evening that followed, he had at least the satisfaction of realizing that Pirenne and Haut Rodric—having met with loud and mutual protestations of esteem and regard—were detesting each other's company a good deal more.

Haut Rodric had attended with glazed eye to Pirenne's lecture during the "inspection tour" of the Encyclopedia Building. With polite and vacant smile, he had listened to the latter's rapid patter as they passed through the vast storehouses

of reference films and the numerous projection rooms.

It was only after he had gone down level by level into and through the composing departments, editing departments, publishing departments, and filming departments that he made his first comprehensive statement.

"This is all very interesting," he said, "but it seems a strange occupation for grown men. What good is it?"

It was a remark, Hardin noted, for which Pirenne found no answer, though the expression of his face was most eloquent.

The dinner that evening was much the mirror image of the events of that afternoon, for Haut Rodric monopolized the conversation by describing—in minute technical detail and with incredible zest—his own exploits as battalion head during the recent war between Anacreon and the neighboring newly proclaimed Kingdom of Smyrno.

The details of the sub-prefect's account were not completed until dinner was over and one by one the minor officials had drifted away. The last bit of triumphant description of mangled spaceships came when he had accompanied Pirenne and Hardin onto the balcony and relaxed in the warm air of the summer evening.

"And now," he said, with a heavy joviality, "to serious matters."

"By all means," murmured Hardin, lighting a long cigar of Vegan tobacco—not many left, he reflected—and teetering his chair back on two legs.

The Galaxy was high in the sky and its misty lens shape stretched lazily from horizon to horizon. The few stars here at the very edge of the universe were insignificant twinkles in comparison.

"Of course," said the sub-prefect, "all the formal discussions—the paper signing and such dull technicalities, that is—will take place before the—What is it you call your Council?"

"The Board of Trustees," replied Pirenne, coldly.

"Queer name! Anyway, that's for tomorrow. We might as well clear away some of the underbrush, man to man, right now, though. Hey?"

"And this means—" prodded Hardin.

"Just this. There's been a certain change in the situation out here in the Periphery and the status of your planet has become a trifle uncertain. It would be very convenient if we succeeded in coming to an understanding as to how the matter stands. By the way, mayor, have you another one of those cigars?"

Hardin started and produced one reluctantly.

Anselm haut Rodric sniffed at it and emitted a clucking sound of pleasure. "Vegan tobacco! Where did you get it?"

"We received some last shipment. There's

hardly any left. Space knows when we'll get more—if ever."

Pirenne scowled. He didn't smoke—and, for that matter, detested the odor. "Let me understand this, your eminence. Your mission is merely one of clarification?"

Haut Rodric nodded through the smoke of his first lusty puffs.

"In that case, it is soon over. The situation with respect to Encyclopedia Foundation Number One is what it always has been."

"Ah! And what is it that it always has been?"

"Just this: A State-supported scientific institution and part of the personal domain of his august majesty, the Emperor."

The sub-prefect seemed unimpressed. He blew smoke rings. "That's a nice theory, Dr. Pirenne. I imagine you've got charters with the Imperial Seal upon it—but what's the actual situation? How do you stand with respect to Smyrno? You're not fifty parsecs from Smyrno's capital, you know. And what about Konom and Daribow?"

Pirenne said: "We have nothing to do with any prefect. As part of the Emperor's—"

"They're not prefects," reminded Haut Rodric; "they're kingdoms now."

"Kingdoms then. We have nothing to do with them. As a scientific institution—"

"Science be dashed!" swore the other, via a bouncing soldierly oath that ionized the atmosphere. "What the devil has that got to do with the fact that we're liable to see Terminus taken over by Smyrno at any time?"

"And the Emperor? He would just sit by?"

Haut Rodric calmed down and said: "Well, now, Dr. Pirenne, you respect the Emperor's property and so does Anacreon, but Smyrno might not. Remember, we've just signed a treaty with the Emperor—I'll present a copy to that Board of yours tomorrow—which places upon us the responsibility of maintaining order within the borders of the old Prefect of Anacreon on behalf of the Emperor. Our duty is clear, then, isn't it?"

"Certainly. But Terminus is not part of the Prefect of Anacreon."

"And Smyrno—"

"Nor is it part of the Prefect of Smyrno. It's not part of any prefect."

"Does Smyrno know that?"

"I don't care what it knows."

"We do. We've just finished a war with her and she still holds two stellar systems that are ours. Terminus occupies an extremely strategic spot, between the two nations."

Hardin felt weary. He broke in: "What is your proposition, your eminence?"

The sub-prefect seemed quite ready to stop fencing in favor of more direct statements. He said briskly: "It seems perfectly obvious that,

since Terminus cannot defend itself, Anacreon must take over the job for its own sake. You understand we have no desire to interfere with internal administration—"

"Uh-huh," grunted Hardin, dryly.

"—but we believe that it would be best for all concerned to have Anacreon establish a military base upon the planet."

"And that is all you would want—a military base in some of the vast unoccupied territory—and let it go at that."

"Well, of course, there would be the matter of supporting the protecting forces."

Hardin's chair came down on all four, and his elbows went forward on his knees. "Now we're getting to the nub. Let's put it into language. Terminus is to be a protectorate and to pay tribute."

"Not tribute. Taxes. We're protecting you. You pay for it."

Pirenne banged his hand on the chair with sudden violence. "Let me speak, Hardin. Your eminence, I don't care a rusty half-credit coin for Anacreon, Smyrno, or all your local politics and petty wars. I tell you this is a State-supported tax-free institution."

"State-supported? But we are the State, Dr. Pirenne, and we're not supporting."

Pirenne rose angrily. "Your eminence, I am the direct representative of—"

"—his august majesty, the Emperor," chorused Anselm haut Rodric sourly, "and I am the direct representative of the King of Anacreon. Anacreon is a lot nearer, Dr. Pirenne."

"Let's get back to business," urged Hardin. "How would you take these so-called taxes, your eminence? Would you take them in kind: wheat, potatoes, vegetables, cattle?"

The sub-prefect stared. "What the devil? What do we need with those? We've got hefty surpluses. Gold, of course. Chromium or vanadium would be even better, incidentally, if you have it in quantity."

Hardin laughed. "Quantity! We haven't even got iron in quantity. Gold! Here, take a look at our currency." He tossed a coin to the envoy.

Haut Rodric bounced it and stared. "What is it? Steel?"

"That's right."

"I don't understand."

"Terminus is a planet practically without metals. We import it all. Consequently, we have no gold, and nothing to pay unless you want a few thousand bushels of potatoes."

"Well—manufactured goods."

"Without metal? What do we make our machines out of?"

There was a pause and Pirenne tried again. "This whole discussion is wide of the point. Terminus is not a planet, but a scientific foundation

preparing a great encyclopedia. Space, man, have you no respect for science?"

"Encyclopedias don't win wars." Haut Rodric's brows furrowed. "A completely unproductive world, then—and practically unoccupied at that. Well, you might pay with land."

"What do you mean?" asked Pirenne.

"This world is just about empty and the unoccupied land is probably fertile. There are many of the nobility on Anacreon that would like an addition to their estates."

"You can't propose any such—"

"There's no necessity of looking so alarmed, Dr. Pirenne. There's plenty for all of us. If it comes to what it comes, and you co-operate, we could probably arrange it so that you lose nothing. Titles can be conferred and estates granted. You understand me, I think."

Pirenne sneered. "Thanks!"

And then Hardin said ingenuously: "Could Anacreon supply us with adequate quantities of praseodymium for our atomic-power plant? We've only a few years' supply left."

There was a gasp from Pirenne and then a dead silence for minutes. When Haut Rodric spoke it was in a voice quite different from what it had been till then:

"You have atomic power?"

"Certainly. What's unusual in that? I imagine atomic power is fifty thousand years old now. Why shouldn't we have it? Except that it's a little difficult to get praseodymium."

"Yes . . . yes." The envoy paused and added uncomfortably: "Well, gentlemen, we'll pursue the subject tomorrow. You'll excuse me—"

Pirenne looked after him and gritted through his teeth: "That insufferable, dull-witted donkey! That—"

Hardin broke in: "Not at all. He's merely the product of his environment. He doesn't understand much except that 'I got a gun and you ain't.'"

Pirenne whirled on him in exasperation. "What in space did you mean by the talk about military bases and tribute? Are you crazy?"

"No. I merely gave him rope and let him talk. You'll notice that he managed to stumble out with Anacreon's real intentions—that is, the parceling up of Terminus into landed estates. Of course, I don't intend to let that happen."

"You don't intend. You don't. And who are you? And may I ask what you meant by blowing off your mouth about our atomic-power plant? Why, it's just the thing that would make us a military target."

"Yes," grinned Hardin. "A military target to stay away from. Isn't it obvious why I brought the subject up? It happened to confirm a very strong suspicion I had had."

"And that was what?"

"That Anacreon no longer has an atomic-power economy—and that, therefore, the rest of the Periphery no longer has one as well. Interesting, wouldn't you say?"

"Bah!" Pirenne left in fiendish humor, and Hardin smiled gently.

He threw his cigar away and looked up at the outstretched Galaxy. "Back to oil and coal, are they?" he murmured—and what the rest of his thoughts were he kept to himself.

When Hardin denied owning the *Journal*, he was perhaps technically correct, but no more. Hardin had been the leading spirit in the drive to incorporate Terminus into an autonomous municipality—he had been elected its first mayor—so it was not surprising that, though not a single share of *Journal* stock was in his name, some sixty percent was controlled by him in more devious fashions.

There were ways.

Consequently, when Hardin began suggesting to Pirenne that he be allowed to attend meetings of the Board of Trustees, it was not quite coincidence that the *Journal* began a similar campaign. And the first mass meeting in the history of the Foundation was held, demanding representation of the City in the "national" government.

And, eventually, Pirenne capitulated with ill grace.

Hardin, as he sat at the foot of the table, speculated idly as to just what it was that made physical scientists such poor administrators. It might be merely that they were too used to inflexible fact and far too unused to pliable people.

In any case, there was Tomaz Sutt and Jord Fara on his left; Lundin Crast and Yate Fulham on his right; with Pirenne, himself, presiding. He knew them all, of course, but they seemed to have put on an extra-special bit of pomposity for the occasion.

Hardin half dozed through the initial formalities and then perked up when Pirenne sipped at the glass of water before him by way of preparation and said:

"I find it very gratifying to be able to inform the Board that, since our last meeting, I have received word that Lord Dorwin, Chancellor of the Empire, will arrive at Terminus in two weeks. It may be taken for granted that our relations with Anacreon will be smoothed out to our complete satisfaction as soon as the Emperor is informed of the situation."

He smiled and addressed Hardin across the length of the table. "Information to this effect has been given the *Journal*."

Hardin snickered below his breath. It seemed evident that Pirenne's desire to strut this information before him had been one reason for his admission into the sacrosanctum.

He said evenly: "Leaving vague expressions out of account, what do you expect Lord Dorwin to do?"

Tomaz Sutt replied. He had a bad habit of addressing one in the third person when in his more stately moods.

"It is quite evident," he observed, "that Mayor Hardin is a professional cynic. He can scarcely fail to realize that the Emperor would be most unlikely to allow his personal rights to be infringed."

"Why? What would he do in case they were?"

There was an annoyed stir. Pirenne said, "You are out of order," and, as an afterthought, "and are making what are near-treasonable statements, besides."

"Am I to consider myself answered?"

"Yes! If you have nothing further to say—"

"Don't jump to conclusions. I'd like to ask a question. Besides this stroke of diplomacy—which may or may not prove to mean anything—has anything concrete been done to meet the Anacreonic menace?"

Yate Fulham drew one hand along his ferocious red mustache. "You see a menace there, do you?"

"Don't you?"

"Scarcely"—this with indulgence. "The Emperor—"

"Great space!" Hardin felt annoyed. "What is this? Every once in a while someone mentions 'Emperor' or 'Empire' as if it were a magic word. The Emperor is fifty thousand parsecs away, and I doubt whether he gives a damn about us. And if he does, what can he do? What there was of the imperial navy in these regions is in the hands of the four kingdoms now and Anacreon has its share. Listen, we have to fight with guns, not with words.

"Now, get this. We've had two months of grace so far, mainly because we've given Anacreon the idea that we've got atomic weapons. Well, we all know that that's a little white lie. We've got atomic power, but only for commercial uses, and darn little at that. They're going to find that out soon, and if you think they're going to enjoy being jollied along, you're mistaken."

"My dear sir—"

"Hold on; I'm not finished." Hardin was warming up. He liked this. "It's all very well to drag chancellors into this, but it would be much nicer to drag a few great big siege guns fitted for beautiful atomic bombs into it. We've lost two months, gentlemen, and we may not have another two months to lose. What do you propose to do?"

Said Lundin Crast, his long nose wrinkling angrily: "If you're proposing the militarization of the Foundation, I won't hear a word of it. It would mark our open entrance into the field of

politics. We, Mr. Mayor, are a scientific foundation and nothing else."

Added Sutt: "He does not realize, moreover, that building armaments would mean withdrawing men—valuable men—from the Encyclopedia. That cannot be done, come what may."

"Very true," agreed Pirenne. "The Encyclopedia first—always."

Hardin groaned in spirit. The Board seemed to suffer violently from Encyclopedia on the brain.

He said icily: "Has it ever occurred to the Board that it is barely possible that Terminus may have interests other than the Encyclopedia?"

Pirenne replied: "I do not conceive, Hardin, that the Foundation can have any interest other than the Encyclopedia."

"I didn't say the Foundation; I said *Terminus*. I'm afraid you don't understand the situation. There's a good million of us here on Terminus, and not more than a hundred and fifty thousand are working directly on the Encyclopedia. To the rest of us, this is *home*. We were born here. We're living here. Compared with our farms and our homes and our factories, the Encyclopedia means little to us. We want them protected—"

He was shouted down.

"The Encyclopedia first," ground out Crast. "We have a mission to fulfill."

"Mission, hell," shouted Hardin. "That might have been true fifty years ago. But this is a new generation."

"That has nothing to do with it," replied Pirenne. "We are scientists."

And Hardin leaped through the opening. "Are you, though? That's a nice hallucination, isn't it? Your bunch here is a perfect example of what's been wrong with the entire Galaxy for thousands of years. What kind of science is it to be stuck out here for centuries classifying the work of scientists of the last millennium? Have you ever thought of working onward, *extending* their knowledge and improving upon it? No! You're quite happy to stagnate. The whole Galaxy is, and has been for space knows how long. That's why the Periphery is revolting; that's why communications are breaking down; that's why petty wars are becoming eternal; that's why whole systems are losing atomic power and going back to barbarous techniques of chemical power.

"If you ask me," he cried, "*the Galaxy is going to pot!*"

He paused and dropped into his chair to catch his breath, paying no attention to the two or three that were attempting simultaneously to answer him.

Crast got the floor. "I don't know what you're trying to gain by your hysterical statements, Mr. Mayor. Certainly, you are adding nothing constructive to the discussion. I move, Mr. Chair-

man, that the last speaker's remarks be placed out of order and the discussion be resumed from the point where it was interrupted."

Jord Fara bestirred himself for the first time. Up to this point Fara had taken no part in the argument even at its hottest. But now his ponderous voice, every bit as ponderous as his three-hundred-pound body, burst its bass way out.

"Haven't we forgotten something, gentlemen?"

"What?" asked Pirenne, peevishly.

"That in a month we celebrate our fiftieth anniversary," Fara had a trick of uttering the most obvious platitudes with great profundity.

"What of it?"

"And on that anniversary," continued Fara, placidly, "Hari Seldon's First Vault will open. Have you ever considered what might be in the First Vault?"

"I don't know. Routine matters. A stock speech of congratulations, perhaps. I don't think any significance need be placed on the First Vault—though the *Journal*"—and he glared at Hardin, who grinned back—"did try to make an issue of it. I put a stop to that."

"Ah," said Fara, "but perhaps you are wrong. Doesn't it strike you"—he paused and put a finger to his round little nose—"that the Vault is opening at a very convenient time?"

"Very inconvenient time, you mean," muttered Fulham. "We've got some other things to worry about."

"Other things more important than a message from Hari Seldon? I think not." Fara was growing more pontifical than ever, and Hardin eyed him thoughtfully. What was he getting at?

"In fact," said Fara, happily, "you all seem to forget that Seldon was the greatest psychologist of our time and that he was the founder of our Foundation. It seems reasonable to assume that he used his science to determine the probable course of the history of the immediate future. If he did, as seems likely, I repeat, he would certainly have managed to find a way to warn us of danger and, perhaps, to point out a solution. The Encyclopedia was very dear to his heart, you know."

An aura of puzzled doubt prevailed. Pirenne hemmed. "Well, now, I don't know. Psychology is a great science, but—there are no psychologists among us at the moment, I believe. It seems to me we're on uncertain ground."

Fara turned to Hardin. "Didn't you study psychology under Alurin?"

Hardin answered, half in reverie: "Yes. I never completed my studies, though. I got tired of theory. I wanted to be a psychological engineer, but we lacked the facilities, so I did the next best thing—I went into politics. It's practically the same thing."

"Well, what do you think of the First Vault?"

And Hardin replied cautiously, "I don't know."

He did not say a word for the remainder of the meeting—even though it got back to the subject of the Chancellor of the Empire.

In fact, he didn't even listen. He'd been put on a new track and things were falling into place—just a little. Little angles were fitting together—one or two.

And psychology was the key. He was sure of that.

He was trying desperately to remember the psychological theory he had once learned—and from it he got one thing right at the start.

A great psychologist such as Seldon could unravel human emotions and human reactions sufficiently to be able to predict broadly the historical sweep of the future.

And that meant—hm-m-m!

Lord Dorwin took snuff. He also had long hair, curled intricately and, quite obviously, artificially; to which were added a pair of fluffy, blond sideburns, which he fondled affectionately. Then, too, he spoke in overprecise statements and left out all the r's.

At the moment, Hardin had no time to think of more of the reasons for the instant detestation in which he had held the noble chancellor. Oh, yes, the elegant gestures of one hand with which he accompanied his remarks and the studied condescension with which he accompanied even a simple affirmative.

But, at any rate, the problem now was to locate him. He had disappeared with Pirenne half an hour before—passed clean out of sight, blast him.

Hardin was quite sure that his own absence during the preliminary discussions would quite suit Pirenne.

But Pirenne had been seen in this wing and on this floor. It was simply a matter of trying every door. Halfway down, he said, "Ah!" and stepped into the darkened room. The profile of Lord Dorwin's intricate hair-do was unmistakable against the lighted screen.

Lord Dorwin looked up and said: "Ah, Hahdin. You ah looking foah us, no doubt?" He held out his snuffbox—overadorned and poor workmanship at that, noted Hardin—and was politely refused, whereat he helped himself to a pinch and smiled graciously.

Pirenne scowled and Hardin met that with an expression of blank indifference.

The only sound to break the short silence that followed was the clicking of the lid of Lord Dorwin's snuffbox. And then he put it away and said:

"A gweat achievement, this Encyclopedia of yoahs, Hahdin. A feat, indeed, to rank with the most majestic accomplishments of all time."

"Most of us think so, milord. It's an accom-

plishment not quite accomplished as yet, however."

"From the little I have seen of the efficiency of your Foundation, I have no fears on that score." And he nodded to Pirenne, who responded with a delighted bow.

Quite a love feast, thought Hardin. "I wasn't complaining about the lack of efficiency, my lord, as much as of the definite excess of efficiency on the part of the Anacreonians—though in another and more destructive direction."

"Ah, yes, Anacweon." A negligent wave of the hand. "I have just come from there. Most barbarous planet. It is thoroughly inconceivable that human beings could live there in the Pewipewy. The lack of the most elementary requirements of a cultivated gentleman; the absence of the most fundamental necessities for comfort and convenience—the utter disuse into which they—"

Hardin interrupted dryly: "The Anacreonians, unfortunately, have all the elementary requirements for warfare and all the fundamental necessities for destruction."

"Quite, quite." Lord Dorwin seemed annoyed, perhaps at being stopped midway in his sentence. "But we aren't to discuss business now, you know. Well, I'm otherwise concerned. Doctor Pirenne, aren't you going to show me the second volume? Do, please."

The lights clicked out and for the next half-hour Hardin might as well have been on Anacreon for all the attention they paid him. The book upon the screen made little sense to him, nor did he trouble to make the attempt to follow, but Lord Dorwin became quite humanly excited at times. Hardin noticed that during these moments of excitement the chancellor pronounced his r's.

When the lights went on again, Lord Dorwin said: "Marvelous. Truly marvelous. You are not, by chance, interested in archaeology, are you, Hardin?"

"Eh?" Hardin shook himself out of an abstracted reverie. "No, my lord, can't say I am. I'm a psychologist by original intention and a politician by final decision."

"Ah! No doubt interesting studies. I, my-



self, y'know"—he helped himself to a giant pinch of snuff—"dabble in ahchaeology."

"Indeed?"

"His lordship," interrupted Pirenne, "is most thoroughly acquainted with the field."

"Well, p'haps I am, p'haps I am," said his lordship complacently. "I *have* done an awful amount of wuhk in the science. Extwemely well-read, in fact. I've gone thwough all of Jawdun, Obijasi, Kwomwill . . . oh, all of them, y'know."

"I've heard of them, of course," said Hardin, "but I've never read them."

"You should some day, my deah fellow. It would amply repay you. Why, I cutainly considah it well wuhth the twip heah to the Pewiphewy to see this copy of Lameth. Would you believe it, my libwawy totally lacks a copy. By the way, Doctah Piwenne, you have not fohgotten yoaah pwomise to twansdevelop a copy foah me befoah I leave?"

"Only too pleased."

"Lameth, you must know," continued the chancellor, pontifically, "pwesents a new and most intewesting addition to my pwevious knowledge of the 'Owigin Question.'"

"Which question?" asked Hardin.

"The 'Owigin Question.' The place of the owigin of the human species, y'know. Suahly you must know that it is thought that owiginally the human wace occupied only one planetawy system."

"Well, yes, I know that."

"Of cohse, no one knows exactly which system it is—lost in the mists of antiquity. Theah ah theawies, howevah. Siwius, some say. Othahs insist on Alpha Centauwl, oah on Sol, oah on 61 Cygni—all in the Siwius sectah, you see."

"And what does Lameth say?"

"Well, he goes off along a new twail completely. He twies to show that ahchaeological wemains on the thuhd planet of the Ahctuwan System show that humanity existed theah befoah theah wah any indications of space-twavel."

"And that means it was humanity's birth planet?"

"P'haps. I must wead it closely and weigh the evidence befoah I can say foah cuhtain. One must see just how weliable his obsuhvations ah."

Hardin remained silent for a short while. Then he said, "When did Lameth write his book?"

"Oh—I should say about eight hundwed yeaah ago. Of cohse, he has based it lahgly on the pwevious wuhk of Gleen."

"Then why rely on him? Why not go to Arcurus and study the remains for yourself?"

Lord Dorwin raised his eyebrows and took a pinch of snuff hurriedly. "Why, whatevah foah, my deah fellow?"

"To get the information firsthand, of course."

"But wheah's the necessity? It seems an uncommonly woundabout and hopelessly wigma-

wolish method of getting anywheahs. Look heah, now, I've got the wuhks of all the old mastahs—the gweat ahchaeologists of the past. I weigh them against each othah—balance the disagweements—analyze the conflicting statements—decide which is pwobably cowwect—and come to a conclusion. That is the scientific method. At least"—patronizingly—"as I see it. How insuffewably cwude it would be to go to Ahctuwas, oah to Sol, foah instance, and blundah about, when the old mastahs have covahed the gwound so much moah effectually than we could possibly hope to do."

Hardin murmured politely, "I see."

Scientific method, hell! No wonder the Galaxy was going to pot.

"Come, milord," said Pirenne, "I think we had better be returning."

"Ah, yes. P'haps we had."

As they left the room, Hardin said suddenly, "Milord, may I ask a question?"

Lord Dorwin smiled blandly and emphasized his answer with a gracious flutter of the hand. "Cuhtainly, my deah fellow. Only too happy to be of suhvice. If I can help you in any way fwom my pooah stoah of knowledge—"

"It isn't exactly about archaeology, milord."

"No?"

"No. It's this: Last year we received news here in Terminus about the explosion of a power plant on Planet V of Gamma Andromeda. We got the barest outline of the accident—no details at all. I wonder if you could tell me exactly what happened."

Pirenne's mouth twisted. "I wonder you annoy his lordship with questions on totally irrelevant subjects."

"Not at all, Doctah Piwenne," interceded the chancellor. "It is quite all wight. Theah isn't much to say concuhning it in any case. The powah plant did explode and it was quite a catastwophe, y'know. I believe seweval million people wah killed and at least half the planet was simply laid in wuins. Weally, the govuhment is sewiously considewing placing seweah westwictions upon the indiscwminate use of atomic powah—though that is not a thing for genewal publication, y'know."

"I understand," said Hardin. "But what was wrong with the plant?"

"Well, weally," replied Lord Dorwin indifferently, "who knows? It had bwoken down some yeaahs pweviously and it is thought that the weplacements and wepaiah wuhk was most infewiah. It is so difficult these days to find men who *weally* undahstand the moah technical details of ouah powah systems." And he took a sorrowful pinch of snuff.

"You realize," said Hardin, "that the independ-

ent kingdoms of the Periphery have lost atomic power altogether?"

"Have they? I'm not at all suhpwised. Barbawous planets— Oh, but my deah fellow, don't call them independent. They ahn't, y'know. The tweaties we've made with them ah pwoof positive of that. They acknowledge the soveweignty of the Empewah. They'd have to, of cohse, oah we wouldn't tweat with them."

"That may be so, but they have considerable freedom of action."

"Yes, I suppose so. Considewable. But that scahcely mattahs. The Empiah is fah bettah off, with the Pewiphewy thwown upon its own we-soahces—as it is, moah oah less. They ahn't any good to us, y'know. Most bahbawous planets. Scahcely civilized."

"They were civilized in the past. Anacreon was one of the richest of the outlying provinces. I understand it compared favorably with Vega itself."

"Oh, but, Hahdin, that was centuwies ago. You can scahcely dwaw conclusion fwom that. Things wah diffewent in the old gweat days. We ahn't the men we used to be, y'know. But, Hahdin, come, you ah a most puhsistent chap. I've told you I simply won't discuss business today. Doc-tah Piwenne did pwepayah me foah you. He told me you would twy to badgah me, but I'm fah too old a hand foah that. Leave it foah next day."

And that was that.

This was the second meeting of the Board that Hardin had attended, if one were to exclude the informal talks the Board members had had with the now-departed Lord Dorwin. Yet the mayor had a perfectly definite idea that at least one other, and possibly two or three, had been held, to which he had somehow never received an invitation.

Nor, it seemed to him, would he have received notification of this one had it not been for the ultimatum.

At least, it amounted to an ultimatum, though a superficial reading of the visigraphed document would lead one to suppose that it was a friendly interchange of greetings between two potentates.

Hardin fingered it gingerly. It started off floridly with a salutation from "His Puissant Majesty, the King of Anacreon, to his friend and brother, Dr. Lewis Pirenne, Chairman of the Board of Trustees, of the Encyclopedia Foundation Number One," and it ended even more lavishly with a gigantic, multicolored seal of the most involved symbolism.

But it was an ultimatum just the same.

Hardin said: "It turned out that we didn't have much time after all—only three months. But little as it was, we threw it away unused. This thing here gives us a week. What do we do now?"

Pirenne frowned worriedly. "There must be a loophole. It is absolutely unbelievable that they would push matters to extremities in the face of what Lord Dorwin has assured us regarding the attitude of the Emperor and the Empire."

Hardin perked up. "I see. You have informed the King of Anacreon of this alleged attitude?"

"I did—after having placed the proposal to the Board for a vote and having received unanimous consent."

"And when did this vote take place?"

Pirenne climbed onto his dignity. "I do not believe I am answerable to you in any way, Mayor Hardin."

"All right. I'm not that vitally interested. It's just my opinion that it was your diplomatic transmission of Lord Dorwin's valuable contribution to the situation"—he lifted the corner of his mouth in a sour half-smile—"that was the direct cause of this friendly little note. They might have delayed longer otherwise—though I don't think the additional time would have helped Terminus any, considering the attitude of the Board."

Said Yate Fulham: "And just how do you arrive at that remarkable conclusion, Mr. Mayor?"

"In a rather simple way. It merely required the use of that much-neglected commodity—common sense. You see, there is a branch of human knowledge known as symbolic logic, which can be used to prune away all sorts of clogging deadwood that clutters up human language."

"What about it?" said Fulham.

"I applied it. Among other things, I applied it to this document here. I didn't really need to for myself because I knew what it was all about, but I think I can explain it more easily to five physical scientists by symbols rather than by words."

Hardin removed a few sheets of paper from the pad under his arm and spread them out. "I didn't do this myself, by the way," he said. "Muller Holk of the Division of Logic has his name signed to the analyses, as you can see."

Pirenne leaned over the table to get a better view and Hardin continued: "The message from Anacreon was a simple problem, naturally, for the men who wrote it were men of action rather than men of words. It boils down easily and straightforwardly to the unqualified statement, which in symbols is what you see, and which in words, roughly translated, is, 'You give us what we want in a week, or we beat the hell out of you and take it anyway.'"

There was silence as the five members of the Board ran down the line of symbols, and then Pirenne sat down and coughed uneasily.

Hardin said, "No loophole, is there, Dr. Pirenne?"

"Doesn't seem to be."

"All right." Hardin replaced the sheets. "Before you now you see a copy of the treaty between the Empire and Anacreon—a treaty, incidentally, which is signed on the Emperor's behalf by the same Lord Dorwin who was here last week—and with it a symbolic analysis."

The treaty ran through five pages of fine print and the analysis was scrawled out in just under half a page.

"As you see, gentlemen, something like ninety percent of the treaty boiled right out of the analysis as being meaningless, and what we end up with can be described in the following interesting manner:

"Obligations of Anacreon to the Empire: *None!*"

"Powers of the Empire over Anacreon: *None!*"

Again the five followed the reasoning anxiously, checking carefully back to the treaty, and when they were finished, Pirenne said in a worried fashion, "That seems to be correct."

"You admit, then, that the treaty is nothing but a declaration of total independence on the part of Anacreon and a recognition of that status by the Empire?"

"It seems so."

"And do you suppose that Anacreon doesn't realize that, and is not anxious to emphasize the position of independence—so that it would naturally tend to resent any appearance of threats from the Empire? Particularly when it is evident that the Empire is powerless to fulfill any such threats, or it would never have allowed independence."

"But then," interposed Sutt, "how would Mayor Hardin account for Lord Dorwin's assurances of Empire support? They seemed—" He shrugged. "Well, they seemed satisfactory."

Hardin threw himself back in the chair. "You know, that's the most interesting part of the whole business. I'll admit I had thought his lordship a most consummate donkey when I first met him—but it turned out that he was actually an accomplished diplomat and a most clever man. I took the liberty of recording all his statements."

There was a flurry, and Pirenne opened his mouth in horror.

"What of it?" demanded Hardin. "I realize it was a gross breach of hospitality and a thing no so-called gentleman would do. Also, that if his lordship had caught on, things might have been unpleasant; but he didn't, and I have the record, and that's that. I took that record, had it copied out and sent that to Holk for analysis, also."

Lundin Crast said, "And where is the analysis?"

"That," replied Hardin, "is the interesting thing. The analysis was the most difficult of the three by all odds. When Holk, after two days of steady work, succeeded in eliminating meaningless statements, vague gibberish, useless qualifications—in short, all the goo and dribble—he

found he had nothing left. Everything canceled out.

"Lord Dorwin, gentlemen, in five days of discussion *didn't say one damned thing*, and said it so you never noticed. There are the assurances you had from your precious Empire."

Hardin might have placed an actively working stench bomb upon the table and created no more confusion than existed after his last statement. He waited, with weary patience, for it to die down.

"So," he concluded, "when you sent threats—and that's what they were—concerning Empire action to Anacreon, you merely irritated a monarch who knew better. Naturally, his ego would demand immediate action, and the ultimatum is the result—which brings me to my original statement. We have one week left and what do we do now?"

"It seems," said Sutt, "that we have no choice but to allow Anacreon to establish military bases on Terminus."

"I agree with you there," replied Hardin, "but what do we do toward kicking them off again at the first opportunity?"

Yate Fulham's mustache twitched. "That sounds as if you have made up your mind that violence must be used against them."

"Violence," came the retort, "is the last refuge of the incompetent. But I certainly don't intend to lay down the welcome mat and brush off the best furniture for their use."

"I still don't like the way you put that," insisted Fulham. "It is a dangerous attitude; the more dangerous because we have noticed lately that a sizable section of the populace seems to respond to all your suggestions just so. I might as well tell you, Mayor Hardin, that the Board is not quite blind to your recent activities."

He paused and there was general agreement. Hardin shrugged.

Fulham went on: "If you were to inflame the City into an act of violence, you would achieve elaborate suicide—and we don't intend to allow that. Our policy has but one cardinal principle, and that is the Encyclopedia. Whatever we decide to do or not to do will be so decided because it will be the measure required to keep that Encyclopedia safe."

"Then," said Hardin, "you come to the conclusion that we must continue our intensive campaign of doing nothing."

Pirenne said bitterly: "You have yourself demonstrated that the Empire cannot help us; though how and why it can be so, I don't understand. If compromise is necessary—"

Hardin had the nightmarelike sensation of running at top speed and getting nowhere. "There is no compromise? Don't you realize that this bosh about military bases is a particularly in-

ferior grade of drivel? Haut Rodric told us what Anacreon was after—outright annexation and imposition of its own feudal system of landed estates and peasant-aristocracy economy upon us. What is left of our bluff of atomic power may force them to move slowly, but they will move nonetheless."

He had risen indignantly, and the rest rose with him—except for Jord Fara.

And then Jord Fara spoke. "Everyone will please sit down. We've gone quite far enough, I think. Come, there's no use looking so furious, Mayor Hardin; none of us have been committing treason."

"You'll have to convince me of that!"

Fara smiled gently. "You know you don't mean that. Let me speak!"

His little shrewd eyes were half closed, and the perspiration gleamed on the smooth expanse of his chin. "There seems no point in concealing that the Board has come to the decision that the real solution to the Anacreonian problem lies in what is to be revealed to us when the First Vault opens six days from now."

"Is that your contribution to the matter?"

"Yes."

"We are to do nothing, is that right, except to wait in quiet serenity and utter faith for the *deus ex machina* to pop out of the First Vault?"

"Stripped of your emotional phraseology, that's the idea."

"Such unsubtle escapism! Really, Dr. Fara, such folly smacks of genius. A lesser mind would be incapable of it."

Fara smiled indulgently. "Your taste in epigrams is amusing, Hardin, but out of place. As a matter of fact, I think you remember my line of argument concerning the First Vault about three weeks ago."

"Yes, I remember it. I don't deny that it was anything but a stupid idea from the standpoint of deductive logic alone. You said—stop me when I make a mistake—that Hari Seldon was the greatest psychologist in the System; that, hence, he could foresee the tight and uncomfortable spot we're in now; that, hence, he established the First Vault as a method of telling us the way out."

"You've got the essence of the idea."

"Would it surprise you to hear that I've given considerable thought to the matter these last weeks?"

"Very flattering. With what result?"

"With the result that pure deduction is found wanting. Again what is needed is a little sprinkling of common sense."

"For instance?"

"For instance, if he foresaw the Anacreonian mess, why not have placed us on some other planet nearer the Galactic centers? Why put us out here

at all if he could see in advance the break in communication lines, our isolation from the Galaxy, the threat of our neighbors—and our helplessness because of the lack of metals on Terminus? That above all! Or if he foresaw all this, why not have warned the original settlers in advance that they might have had time to prepare, rather than wait, as he is doing, until one foot is over the cliff, before doing so?

"And don't forget this. Even though he could foresee the problem *then*, we can see it equally well *now*. Therefore, if he could foresee the solution then, we should be able to see the solution now. After all, Seldon was not a magician. There are no trick methods of escaping from a dilemma that he can see and we can't."

"But, Hardin," reminded Fara, "we can't!"

"But you haven't *tried*. You haven't tried once. First, you refused to admit that there was a menace at all! Then you reposed an absolutely blind faith in the Emperor! Now you've shifted it to Hari Seldon. Throughout you have invariably relied on authority or on the past—never on yourselves."

His fists balled spasmodically. "It amounts to a diseased attitude—a conditioned reflex that shunts aside the independence of your minds whenever it is a question of opposing authority. There seems no doubt ever in your minds that the Emperor is more powerful than you are, or Hari Seldon wiser. And that's wrong, don't you see?"

For some reason, no one cared to answer him.

Hardin continued: "It isn't just you. It's the whole Galaxy. Pirenne heard Lord Dorwin's idea of scientific research. Lord Dorwin thought the way to be a good archaeologist was to read all the books on the subject—written by men who were dead for centuries. He thought that the way to solve archaeological puzzles was to weigh opposing authorities. And Pirenne listened and made no objections. Don't you see that there's something wrong with that?"

Again the note of near-pleading in his voice. Again no answer.

He went on: "And you men and half of Terminus as well are just as bad. We sit here, considering the Encyclopedia the all-in-all. We consider the greatest end of science to be the classification of past data. It is important, but is there no further work to be done? We're receding and forgetting, don't you see? Here in the Periphery they've lost atomic power. In Gamma Andromeda, a power plant has blown up because of poor repairs, and the Chancellor of the Empire complains that atomic technicians are scarce. And the solution? To train new ones? Never! Instead, they're to restrict atomic power."

And for the third time: "Don't you see? It's

Galaxy-wide. It's a worship of the past. It's a deterioration—a *stagnation!*"

He stared from one to the other and they gazed fixedly at him.

Fara was the first to recover. "Well, mystical philosophy isn't going to help us here. Let us be concrete. Do you deny that Hari Seldon could easily have worked out historical trends of the future by simple psychological technique?"

"No, of course not," cried Hardin. "But we can't rely on him for a solution. At best, he might indicate the problem, but if ever there is to be a solution, we must work it out ourselves. He can't do it for us."

Fulham spoke suddenly. "What do you mean—'indicate the problem'? We *know* the problem."

Hardin whirled on him. "You think you do? You think Anacreon is all Hari Seldon is likely to be worried about. I disagree! I tell you, gentlemen, that as yet none of you has the faintest conception of what is really going on."

"And you do?" questioned Pirenne, hostilely.

"I think so!" Hardin jumped up and pushed his chair away. His eyes were cold and hard. "If there's one thing that's definite, it is that there's something smelly about the whole situation; something that is bigger than anything we've talked about yet. Just ask yourself this question: Why was it that among the original population of the Foundation not one first-class psychologist was included, except Bor Alurin? And *he* carefully refrained from training his pupils in more than the fundamentals."

A short silence and Fara said: "All right. Why?"

"Perhaps because a psychologist might have caught on to what this was all about—and too soon to suit Hari Seldon. As it is, we've been stumbling about, getting misty glimpses of the truth and no more. And that is what Hari Seldon wanted."

He laughed harshly. "Good day, gentlemen!" He stalked out of the room.

Mayor Hardin chewed at the end of his cigar. It had gone out but he was past noticing that. He hadn't slept the night before and he had a good idea that he wouldn't sleep this coming night. His eyes showed it.

He said wearily, "And that covers it?"

"I think so." Yohan Lee put a hand to his chin. "How does it sound?"

"Not too bad. It's got to be done, you understand, with impudence. That is, there is to be no hesitation; no time to allow them to grasp the situation. Once we are in a position to give orders, why, give them as though you were born to do so, and they'll obey out of habit. That's the essence of a coup."

"If the Board remains irresolute for even—"

"The Board? Count them out. After tomorrow, their importance as a factor in Terminus affairs won't matter a rusty half-credit."

Lee nodded slowly. "Yet it is strange that they've done nothing to stop us so far. You say they weren't entirely in the dark."

"Fara indicated as much. And Pirenne's been suspicious of me since I was elected. But, you see, they never had the capacity of really understanding what was up. Their whole training has been authoritarian. They are sure that the Emperor, just because he is the Emperor, is all-powerful. And they are sure that the Board of Trustees, simply because it is the Board of Trustees acting in the name of the Emperor, cannot be in a position where it does not give the orders. That incapacity to recognize the possibility of revolt is our best ally."

He heaved out of his chair and went to the water cooler. "They're not bad fellows, Lee, when they stick to their Encyclopedia—and we'll see that that's where they stick in the future. They're

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hopelessly incompetent when it comes to ruling Terminus. Go away, now, and start things rolling. I want to be alone."

He sat down on the corner of his desk and stared at the cup of water.

Space! If only he were as confident as he pretended! The Anacreonians were landing in two days and what had he to go on but a set of notions and half-guesses as to what Hari Seldon had been driving at these past fifty years? He wasn't even a real, honest-to-goodness psychologist—just a fumbler with a little training trying to outguess the greatest mind of the age.

If Fara were right; if Anacreon were all the problem Hari Seldon had foreseen; if the Encyclopedia were all he was interested in preserving—then what price *coup d'état*?

He shrugged and drank his water.

The First Vault was furnished with considerably more than six chairs, as though a larger company had been expected. Hardin noted that thoughtfully and seated himself wearily in a corner just as far from the other five as possible.

The Board members did not seem to object to that arrangement. They spoke among themselves in whispers, which fell off into sibilant monosyllables, and then into nothing at all. Of them all, only Jord Fara seemed even reasonably calm. He had produced a watch and was staring at it somberly.

Hardin glanced at his own watch and then at the glass cubicle—absolutely empty—that dominated half the room. It was the only unusual feature of the room, for aside from that there was no indication that somewhere a speck of radium was wasting away toward that precise moment when a tumbler would fall, a connection be made and—

The lights went dim!

They didn't go out, but merely yellowed and sank with a suddenness that made Hardin jump. He had lifted his eyes to the ceiling lights in startled fashion, and when he brought them down the glass cubicle was no longer empty.

A figure occupied it—a figure in a wheel chair!

It said nothing for a few moments, but it closed the book upon its lap and fingered it idly. And then it smiled, and the face seemed all alive.

It said, "I am Hari Seldon." The voice was old and soft.

Hardin almost rose to acknowledge the introduction and stopped himself in the act.

The voice continued conversationally: "I can't see you, you know, so I can't greet you properly. I don't even know how many of you there are, so all this must be conducted informally. If any of you are standing, please sit down; and if you care to smoke, I wouldn't mind." There was a

light chuckle. "Why should I? I'm not really here."

Hardin fumbled for a cigar almost automatically, but thought better of it.

Hari Seldon put away his book—as if laying it upon a desk at his side—and when his fingers let go, it disappeared.

He said: "It is fifty years now since this Foundation was established—fifty years in which the members of the Foundation have been ignorant of what it was they were working toward. It was necessary that they be ignorant, but now the necessity is gone.

"The Encyclopedia Foundation, to begin with, is a fraud, and always has been!"

There was the sound of a scramble behind Hardin and one or two muffled exclamations, but he did not turn around.

Hari Seldon was, of course, undisturbed. He went on: "It is a fraud in the sense that neither I nor my colleagues care at all whether a single volume of the Encyclopedia is ever published. It has served its purpose, since by it we extracted an imperial charter from the Emperor, by it we attracted the hundred thousand scientists necessary for our scheme, and by it we managed to keep them preoccupied while events shaped themselves, until it was too late for any of them to draw back.

"In the fifty years that you have worked on this fraudulent project—there is no use in softening phrases—your retreat has been cut off, and you have now no choice but to proceed on the infinitely more important project that was, and is, our real plan.

"To that end we have placed you on such a planet and at such a time that in fifty years you were maneuvered to the point where you no longer have freedom of action. From now on, and into the centuries, the path you must take is inevitable. You will be faced with a series of crises, as you are now faced with the first, and in each case your freedom of action will become similarly circumscribed so that you will be forced along one, and only one, path.

"It is that path which our psychology has worked out—and for a reason.

"For centuries Galactic civilization has stagnated and declined, though only a few ever realized that. But now, at last, the Periphery is breaking away and the political unity of the Empire is shattered. Somewhere in the fifty years just past is where the historians of the future will place an arbitrary line and say: 'This marks the Fall of the Galactic Empire.'

"And they will be right, though scarcely any will recognize that Fall for additional centuries.

"And after the Fall will come inevitable barbarism, a period which, our psychohistory tells us, should, under ordinary circumstances, last

from thirty to fifty thousand years. We cannot stop the Fall. We do not wish to; for Empire culture has lost whatever virility and worth it once had. But we can shorten the period of barbarism that must follow—down to a single thousand of years.

"The ins and outs of that shortening, we cannot tell you; just as we could not tell you the truth about the Foundation fifty years ago. Were you to discover those ins and outs, our plan might fail; as it would have, had you penetrated the fraud of the Encyclopedia earlier; for then, by knowledge, your freedom of action would be expanded and the number of additional variables introduced would become greater than our psychology could handle.

"But you won't, for there are no psychologists on Terminus, and never were, but for Alurin—and he was one of us.

"But this I can tell you: Terminus and its companion Foundation at the other end of the Galaxy are the seeds of the Renaissance and the future founders of the Second Galactic Empire. And it is the present crisis that is starting Terminus off to that climax.

"This, by the way, is a rather straightforward crisis, much simpler than many of those that are ahead. To reduce it to its fundamentals, it is this: You are a planet suddenly cut off from the still-civilized centers of the Galaxy, and threatened by your stronger neighbors. You are a small world of scientists surrounded by vast and rapidly expanding reaches of barbarism. You are an island of atomic power in a growing ocean of more primitive energy; but are helpless despite that, because of your lack of metals.

"You see, then, that you are faced by hard ne-

cessity, and that action is forced on you. The nature of that action—that is, the solution to your dilemma—is, of course, obvious!"

The image of Hari Seldon reached into open air and the book once more appeared in his hand. He opened it and said:

"But whatever devious course your future history may take, impress it always upon your descendants that the path has been marked out, and that at its end is new and greater Empire!"

And as his eyes bent to his book, he flicked into nothingness, and the lights brightened once more.

Hardin looked up to see Pirenne facing him, eyes tragic and lips trembling.

The chairman's voice was firm but toneless. "You were right, it seems. If you will see us tonight at six, the Board will consult with you as to the next move."

They shook his hand, each one, and left; and Hardin smiled to himself. They were fundamentally sound at that; for they were scientists enough to admit that they were wrong—but for them, it was too late.

He looked at his watch. By this time, it was all over. Lee's men were in control and the Board was giving orders no longer.

The Anacreonians were landing their first spaceships tomorrow, but that was all right, too. In six months, they would be giving orders no longer.

In fact, as Hari Seldon had said, and as Salvor Hardin had guessed since the day that Anselm haut Rodric had first revealed to him Anacreon's lack of atomic power—the solution to this first crisis was obvious.

Obvious as all hell!

THE END.

IN TIMES TO COME

If Asimov's little puzzle in "Foundation" is not obvious to you—the elements necessary for the solution are all there—you'll be doubly interested in "Bridle and Saddle," coming next issue. It's a sequel to "Foundation," and the second of a series that looks to me as though it had nice possibilities. There are, really, two stages in a culture that produce eras of romantic adventure; when it is collapsing, and when, renascent, it is coming out of its eclipse into a new form. Asimov has in mind a series that will follow the collapse of the Empire, and watch the tides of the new barbarism trying to tear down the Foundation. Animals of a species don't like, and try to destroy, other individuals of the species which are different. Cultures—even collapsing, barbaric cultures—tend to hate and want to destroy the different and higher cultures near them, if they can.

"Bridle and Saddle" gives a nice answer to a stiff problem.

Lester del Rey is back again next month with

"My Name Is Legion," which is unquestionably a story of pure wish-fulfillment character. I imagine that most of us have, at various times during the past couple of years, devoted a certain amount of cogitation to the problem of just what would make a really suitable handling of the Hitler problem. Not the Nazi problem—the more personal one of what Herr Schickelgruber really needs in a personal way. The Elba-St. Helena sort of thing may have sufficed for Napoleon, but somehow it doesn't seem adequate for Hitler.

Del Rey proposes one of the neatest forms of exile and punishment I've seen. The nicest part about it would be that you'd have a chance to observe the entire course of the exile.

Del Rey himself, incidentally, is temporarily out of action due to an argument with a piece of ice, a concrete sidewalk, and the law of gravity. The ice ran out on him, and the law of gravity won over a bone. A cracked vertebra is no fun.

The Editor.

BOOK REVIEW

Got a piece of paper and pencil handy? All right—take this down: "The Days of Creation," by Willy Ley, published by Modern Age Books, New York—320 pp., illustrated. \$2.75.

Don't borrow this book. Buy it. Buy two copies if you can afford it, one for yourself and one to loan to your friends.

Now don't misunderstand me. Neither I, nor Street & Smith, have any financial interest in the transaction. This is pure love, unsolicited admiration. I wish I had written it. I wish I could write it.

All right, all right—I'll get around to telling what the book is about. Don't rush me. It is a short biography of the Universe, starting with "In the beginning" and closing with the Age of Man—and a brief, thrilling prophecy of the future. This book does not discuss the politics and wars of the human race; it discusses everything else. This book is the nearest thing to a complete picture of the world we live in I recall having seen; it may be the best such picture possible for one book, one author, this date.

Mr. Ley has arranged his account to parallel that given in the first chapter of Genesis, not only because that arrangement is simple, dramatic and familiar, but also because the account in Genesis is, bearing in mind differences in language and its extreme brevity, remarkably similar to modern scientific conception. The book has seven chapters, the Seven Days of Creation; the appropriate verses from Genesis stand as chapter headings. But do not let me lead you into thinking that the work is an attempt to reconcile "Science" and "Religion." I had better let the author speak for himself on that point. After discussing, in the preface, the amazing and delightful similarity between almost all ancient accounts of creation, he says:

"Not reasons of high philosophy nor attempts to reconcile ideas that need no reconciling, but the pure joy of comparing two stories, each of them fascinating in itself and doubly so when regarded together."

First Day: "Let There Be Light." A sparkling account of all the stories of the origin of the physical universe, mythological, classical and modern, with detailed rendering of best to date. Cosmogony, astronomy, astrophysics and modern nuclear physics.

Second Day: "The Division of the Waters." From cosmogony we proceed to geogony, to geology, to biology and the first appearance of life on this planet.

Third Day: "The Conquest of the Land."

Paleontology and genetics combine to explain the story of how Life made the incredible jump from the seas to the barren, sterile, forbidding rocks of the shore.

Fourth Day: "The Great New Invention." It is alleged that a devout Moslem rug weaver will always introduce an imperfection into his pattern, as Allah alone is perfect. It is almost a pleasure to find, or seem to find, a fault in Willy Ley. It restores one's own self-confidence. There are two "Great Inventions" in this chapter; I am not sure to which the title refers. One is—quite seriously!—seasons. The other is warm-bloodedness. One led to the other. After a considerable period, some millions of years, of uniform climate, things began to happen to the weather—hot days and cold nights, winter snow and summer sun, tropical ages and ice ages. Some of the animals acquired a built-in thermostat and ceased being reptiles.

Geology, meteorology, vulcanology, paleontology, genetics, chemistry and a seasoning of other sciences, suffices to get us through this chapter. But do not be alarmed—this is a lecture course with no prerequisites; Ley supplies all the necessary information, wittily and charmingly.

Fifth Day: "The Triumph of the Reptiles." See Disney's "Fantasia." Better yet, see Ley's "Days of Creation." I am very fond of stegosauri and still more so of triceratops, but these self-contained panzer divisions have received more than their share of publicity—I won't add to it. But Mr. Ley gives them their due, with no bonus.

Sixth Day: "The Glory of the Mammals." We can't all live near the Bronx Zoo, and, anyhow, some of them have been in the La Brea tar pits—which means the "tar pit" tar pits—a long time. *Smylodon*, and the lovely short-faced bear, and many others.

Seventh Day: "The Consolidation of Brain Power." Man got here late, and poorly equipped—naked, soft, unarmed and unarmored. He *had* to be smart—or die. But other animals had brains, too. Just what was it he had that brought him to the top? And will he stay there? Buy the book.

Mr. Ley has convinced me that Man *will* stay on top. I now believe that Doc Smith's most supergalactic dreams are no more than hard-headed prediction. The book concludes with a prophetic peroration which should cheer up the faint-hearted these depressing days.

Thank you, Willy Ley!

R. A. Heinlein.



BEYOND THIS HORIZON—

By Anson MacDonald

● Second of Two Parts. If the world were perfect, working smoothly, without fuss or strain—why live? What's the purpose? That was Hamilton Felix's question. But in essence he found answer enough in two things that were no answer to that—

Illustrated by Rogers

Synopsis

Part One of Anson MacDonald's story is, itself, almost a synopsis, covering an outline of three hundred years of history of controlled genetics and the civilization it has brought into being.

The manners of the time, the whole system of thought, grows out of the system of genetic control that makes it certain that every couple will have, if they want, the best possible child their heredity makes possible—not just any haphazard assemblage of good and bad characteristics each parent might contribute. One added fac-

tor helps to improve the manners, politeness, and speed of reflexes in the race. Dueling is common, and the weapons used are exceedingly potent, and usually deadly. Bad manners, quarrelsome disposition, thoughtlessness for another's welfare and slow reflexes are, under those circumstances, practically certain sudden death. Unless, of course, one chooses the refuge of the "brassard of peace"—an armband disclaiming ability to protect oneself.

Hamilton Felix is a professional inventor of super-pinball machines, gambling gadgets for amusement places.

He does that because he can do so without effort, and he refuses to make any real effort—for a reason. He's a second-line genius, an exceedingly brilliant man—and intelligent enough to know that he is not and can't be a first-line genius, one of the philosopher-kings of the time, a synthesist who takes as his field of knowledge and effort all human knowledge. He can't take first prize; he sees no point in trying hard to take second prize.

Mordan Claude is a synthesist, the Genetics Moderator in whose department is the duty of maintaining the operation of the genetic selection service. He has called Hamilton Felix in originally because Felix represents a "star line"—a combination of favorable mutations which the Genetics Department has been following and nurturing for two centuries. Felix is unmarried, and Mordan wants the extremely valuable characteristics of the Hamilton line carried on. Particularly, he'd like to see Felix marry Longcourt Phyllis, a fifth cousin who represents a different but parallel "star line" of heredity. The combination of favorable characteristics possible to their children, Mordan assures him, would unquestionably guarantee that Felix's son would be a synthesist.

Hamilton Felix—though taken by Longcourt Phyllis, who is naturally (being the high type a star-line heredity necessitates) a thoroughly vital and stimulating sort of person—is not at all taken with the idea. He propounds a problem for Mordan to solve: Why should a human being live? What's the purpose of it? If Mordan will give him an answer to that, or the beginnings of an answer, he'll be willing to consider co-operation.

But in the meantime, Hamilton's gotten another involvement; McFee Norbert and his friends of the "Survivors Club" have approached Felix, and he has joined them for his own reasons. They propose setting up a new government, using the possibilities of genetic control to produce not better, normal humans, but specialized semihuman beings, some all brain, some all muscle. They will, of course, rule this new State themselves, after murdering the present rulers.

They are, actually, a group of third-rate geniuses, faced with a problem parallel to that of Hamilton Felix—they can't become synthesists because they haven't the mental equipment it takes—but differ from him in one feature: they haven't wit enough to know they haven't the ability.

Hamilton Felix's reason for joining is simple; he isn't entirely content with the present set-up, but he's completely certain that the proposed set-up would be horrible. They have asked Hamilton to join for three reasons: his wealth, his intelligence, and because they know they will need good heredity stock after the revolution. Hamilton joined to make sure he found out, and so could report to Mordan, all of those involved.

To his annoyance and surprise, he discovers that Monroe-Alpha Clifford, a good friend of his, has joined. Clifford is a statistician, a one-track mind, and something of a mental lightweight with a tendency to blow hot and blow cold over fads. This is simply his latest, but one in which he is, now, very sincere. And, unfortunately, it's one that is apt to prove very deadly. He had been a lukewarm supporter—being fundamentally soft-hearted—because of the problem of what to do with "control naturals"—people who were born without benefit of the genetic selection methods and who, therefore, are imperfect, subject to such archaic troubles as colds, toothache and kidney failure.

But recently J. Darlington Smith had been released at last from the famous "Time Stasis," a volume of space in the Adirondacks that had been somehow put into a condition of absolute time stasis in 1926. The secret had been solved only recently, and that secret gave Mc-

Fee Norbert an answer to his problem of satisfying the soft-hearted. The new government's undesirables would simply be filed indefinitely in time-stasis condition. With that understanding, Monroe-Alpha is wholeheartedly willing to co-operate when at last the zero hour is announced. He starts out to do his share in wrecking the government—and Hamilton Felix, knowing that Mordan and the whole government knows about the revolution, follows and stops him.

PART II.

"Felix! What do you mean? What's come over you?" His expression was so completely surprised, so utterly innocent of wrongdoing, that Hamilton was momentarily disconcerted. Was it possible that Monroe-Alpha, like himself, was in it as an agent of the government and knew that Hamilton was one also?

"Wait a minute," he said grimly. "What's your status here? Are you loyal to the Survivors Club, or are you in it as a spy?"

"A spy? Did you think I was a spy? Was that why you grabbed my gun?"

"No," Hamilton answered savagely, "I was afraid you weren't a spy."

"But—"

"Get this. I am a spy. I'm in this thing to bust it up. And, damn it, if I were a good one, I'd blow your head off and get on with my work. You bloody fool, you've gummed the whole thing up!"

"But . . . but, Felix, I knew you were in it. That was one of the things that persuaded me. I knew you wouldn't—"

"Well, I'm not! Where does that put you? Where do you stand? Are you with me, or against me?"

Monroe-Alpha looked from Hamilton's face to the gun in his fist, then back to his face. "Go ahead and shoot," he said.

"Don't be a fool!"

"Go ahead. I may be a fool—I'm not a traitor."

"Not a traitor—you! You've already sold out the rest of us."

Monroe-Alpha shook his head. "I was born into this culture. I had no choice and I owe it no loyalty. Now I've had a vision of a worth-while society. I won't sacrifice it to save my own skin."

Hamilton swore. "'God deliver us from an idealist.' Would you let that gang of rats run the country?"

The telephone said softly but insistently, "Someone's calling. Someone's calling. Someone's—" They ignored it.

"They aren't rats. They propose a truly scientific society and I'm for it. Maybe the Change will be a little harsh but that can't be helped. It's for the best—"

"Shut up. I haven't time to argue ideologies with you." He stepped toward Monroe-Alpha, who drew back a little, watching him.

Hamilton suddenly, without taking his eyes off Monroe-Alpha's face, kicked him in the groin. "Someone's calling. Someone's calling." Hamilton holstered his gun—fast—bent over the disabled man and punched him in the pit of the stomach, not with his fist but with stiffened fingers. It was nicely calculated to paralyze the diaphragm—and did. He dragged Monroe-Alpha to a point under the telephone, placed a knee in the small of his back and seized his throat with the left hand.

"One move is all you'll get," he warned. With his right hand he cut in the phone. His face was close to the pickup; nothing else would be transmitted.

McFee Norbert's face appeared in the frame "Hamilton!" he said. "What in hell are you doing there?"

"I went home with Monroe-Alpha."

"That's direct disobedience. You'll answer for it—later. Where's Monroe-Alpha?"

Hamilton gave a brief, false, but plausible, explanation.

"A fine time to have to do that," McFee commented. "Give him these orders: He is relieved from duty. Tell him to get as far away and stay away, for forty-eight hours. I've decided to take no chances with him."

"Right," said Hamilton.

"And you—do you realize how near you came to missing your orders? You should be in action ten minutes before the section group moves in. Get going."

"Now?"

"Now."

Hamilton cleared the circuit. Monroe-Alpha had started to struggle the second the phone came to life. Hamilton had ground his knee into his spine and clamped down hard on his throat, but it was a situation which could not be maintained indefinitely.

He eased up on Monroe-Alpha a little. "You heard those orders?"

"Yes," Monroe-Alpha acknowledged hoarsely.

"You are going to carry them out. Where's your runabout?"

No answer. Hamilton dug in viciously. "Answer me. On the roof?"

"Yes."

Hamilton did not bother to answer. He took his heavy automatic from its holster and struck Monroe-Alpha behind his right ear. The man's head jerked once, then sagged limply. Hamilton turned to the phone and signaled Mordan's personal number. He waited apprehensively while distant machinery hunted, fearful that the report would come back, "NOWHERE AVAILABLE." He was relieved when the instrument reported instead, "SIGNALING."

After an interminable time—all of three or four seconds—Mordan's face lighted up the frame. "Oh—hello, Felix."

"Claude—the time's come! This is it."

"Yes, I know. That's why I'm here." The background behind him showed his office.

"You—*knew*?"

"Yes, Felix."

"But— Never mind. I'm coming over."

"Yes, certainly." He cut off.

Hamilton reflected grimly that one more surprise would be just enough to cause him to start picking shadows off the wall. But he had no time to worry about it. He rushed into his friend's bedchamber, found what he wanted immediately—small pink capsules, Monroe-Alpha's habitual relief from the peril of sleepless worry. He returned then and examined Monroe-Alpha briefly. He was still out cold.

He picked him up in his arms, went out into the corridor, and sought the lift. He passed one startled citizen on the way. Hamilton looked at him, said, "Ssssh— You'll waken him. Open the lift for me, will you please?"

The citizen looked dubious, shrugged, and did as he was requested.

He found Monroe-Alpha's little skycar without trouble, removed the key from his friend's pocket, and opened it. He dumped his burden inside, set the pilot for the roof of the clinic, and depressed the impeller bar. He had done all he could for the moment; in over-city traffic automatic operation was faster than manual. It would be five minutes, or more, before he reached Mordan, but, even at that, he had saved at least ten minutes over what it would have taken by tube and slideway.

It consoled him somewhat for the time he had wasted on Monroe-Alpha.

The man was beginning to stir. Hamilton took a cup from the cooler, filled it with water, dissolved three of the capsules in it, and went to his side. He slapped him.

Monroe-Alpha sat up. "Whassa matter?" he said. "Stop it. What's happened?"

"Drink this," Hamilton commanded, putting the cup to his lips.

"What happened? My head hurts."

"It ought to—you had quite a fall. Drink it. You'll feel better."

Monroe-Alpha complied docilely. When he had finished, Hamilton watched him narrowly, wondering if he would have to slug him again before the hypnotic took hold. But Monroe-Alpha said nothing more, seemed still dazed, and shortly was sleeping soundly.

The car grounded gently.

Hamilton raised the panel of the communicator, shoved his foot inside, and pushed. There was a satisfying sound of breaking crystal and snapping wires. He set the pilot on due south, without des-

tionation, opened the door, and stepped out. He turned, reached inside, sought the impeller bar—but hesitated without depressing it. He stepped back inside and removed the selector key from the pilot. He stepped out again, depressed the impeller—and ducked. As the door slammed shut, the little runabout angled straight up, seeking cruising altitude.

He did not wait for it to go out of sight, but turned and started below.

Monroe-Alpha awoke with a dry mouth, an excruciatingly throbbing head, a nauseous feeling at his midriff, and a sense of impending disaster. He became aware of these things in that order.

He knew that he was in the air, in a skycar, and alone, but how he had gotten there, why he was there, escaped him. He had had some dreadful nightmares—they seemed to have some bearing on it. There was something he should be doing.

This was the Day, the Day of the Change! That was it!

But why was he here? He should be with his section. No. No, McFee had said—

What was it he had said? And where was Hamilton? *Hamilton was a spy!* Hamilton was about to betray them all!

He must inform McFee at once. Where was he? No matter—call him!

It was then that he found the wrecked communizator. And the bright sunlight outside told him that it was too late, too late. Whatever had come of Hamilton's treachery had already happened. Too late.

The pieces were beginning to fall into place. He recalled the ugly interview with Hamilton, the message from McFee, the fight. Apparently he had been knocked out. There was nothing left to do but to go back, turn himself in to his leader, and confess his failure.

No, McFee had given him orders to stay out, to stay away for two days. He must obey. "The Whole is greater than the parts."

But those orders did not apply—McFee had not known about Hamilton.

He knew now. That was certain. Therefore, the orders *did* apply. What was it McFee had said? "*I've decided to take no chances on him.*"

They didn't trust him. Even McFee knew him for what he was—a thumb-fingered idiot who could be depended on to do the wrong thing at the wrong time.

He had never been any good. All he was fit for was to do fiddling things with numbers. He knew it. Everybody knew it. Hazel knew it. If he met a girl he liked, the best he could do was to knock her off her feet. Hamilton knew it. Hamilton hadn't even bothered to kill him—he wasn't worth killing.

They hadn't really wanted him in the Survivors

Club—not in a pinch. They just wanted him available to set up the accounting for the New Order. McFee had spoken to him about that, asked him if he could do it. Naturally, he could. That's all he was—a clerk.

Well, if they wanted him for that, he'd do it. He wasn't proud. All he asked was to serve. It would be a fairly simple matter to set up foolproof accounting for a collective-type State. It would not take him long; after that, his usefulness ended, he would be justified in taking the long sleep.

He got up, having found some comfort in complete self-abnegation. He rinsed out his mouth, drank more than a liter of water, and felt a little better. He rummaged in the larder, opened a seal of tomato juice, drank it, and felt almost human, in a deeply melancholy way.

He then investigated his location. The car was hovering; it had reached the extreme limit of its automatic radius. The ground was concealed by clouds, though it was bright sunlight where he was. The pilot showed him the latitude and longitude; a reference to the charts placed him somewhere over the Sierra Nevada Mountains—almost precisely over the Park of the Giant Redwoods, he noticed.

He derived a flicker of interest from that. The Survivors Club, in their public social guise, claimed the General Sherman Tree as president emeritus. It was a nice jest, he thought—the unkillable, perfectly adapted Oldest Living Thing on Earth.

The sabotaged pilot put wrinkles between his eyes. He could fly the craft manually, but he could not enter the traffic of the Capital until it was repaired. He would have to seek some small town—

No, McFee had said to go away and stay away—and McFee meant what he said. If he went to any town, he would be mixed up in the fighting.

He did not admit to himself that he no longer had any stomach for it—that Hamilton's words had left him with unadmitted doubts.

Still, it must be repaired. There might be a repair station at the Park—must be, in fact, in view of the tourist traffic. And surely the Change would not cause any fighting there.

He cut in the fog eyes and felt his way down.

When he grounded a single figure approached. "You can't stay," the man said, when he was in earshot. "The Park's closed."

"I've got to have a repair," said Monroe-Alpha. "Why is the Park closed?"

"Can't say. Some trouble down below. The rangers were called on special duty hours ago, and we sent the tourists out. There's nobody here but me."

"Can you repair?"

"Could—maybe. What's the trouble?"

Monroe-Alpha showed him. "Can you fix it?"

"Not the talkie box. Might scare up some parts for the pilot. What happened? Looks like you smashed it yourself."

"I didn't." He opened a locker, located his car gun, and stuck it in his holster. The caretaker was brassarded; he shut up at once. "I think I'll take a walk while you fix it."

"Yes, sir. It won't take long."

Monroe-Alpha took out his credit folder, tore out a twenty-credit note, and handed it to the man. "Here. Leave it in the hangar." He wanted to be alone, to talk to no one at all, least of all this inquisitive stranger. He turned and walked away.

He had seen very little of the Big Trees in landing; he had kept his eyes glued to the fog eyes and had been quite busy with the problem of landing. Nor had he ever been in the Park before. True, he had seen pictures—who has not?—but pictures are not the trees. He started out, more intent on his inner turmoil than on the giants around him.

But the place got him.

There was no sun, no sky. The trees lost themselves in a ceiling of mist, a remote distance overhead. There was no sound. His own footsteps lost themselves in a damp carpet of evergreen needles. There was no limiting horizon, endless succession only of stately columns, slim green columns of sugar pine, a mere meter in thickness, massive red-brown columns of the great ones themselves. They receded from him on all sides; the eye could see nothing but trees—trees, the mist overhead, and the carpet of their debris, touched in spots by stubborn patches of gray snow.

An occasional drop of purely local rain fell, dripping from the branches far above.

There was no time there. This had been, was, and would be. Time was not. There was no need for time here; the trees negated it, ignored it. Seasons they might recognize, lightly, as one notes and dismisses a passing minute. He had a feeling that he moved too frantically for them to notice, that he was too small for them to see.

He stopped, and approached one of the elders, cautiously, as befits a junior in dealing with age. He touched its coat, timidly at first, then with palm-flat pressure, as he gained confidence. It was not cool, as bark is, but warm and alive in spite of the moisture that clung to it. He drew from the tree, through its warm shaggy pelt, a mood of tranquil strength. He felt sure, on a level of being just below that of word-shaped thoughts, that the tree was serene and sure of itself and, in some earth-slow somber fashion, happy.

He was no longer capable of worrying over the remote problems of his own ant hill. His scales had changed, and the frenetic struggles of that other world had faded both in time and distance until he no longer discerned their details.

He came upon the Old One unexpectedly. He had been moving through the forest, feeling it rather than thinking about it. If there were signs warning him of what lay ahead, he had not seen them. But he needed no signs to tell him what he saw. The other giants had been huge and old; this one dwarfed them as they dwarfed the sugar pines.

Four thousand years it had stood there, maintaining, surviving, building its giant thews of living wood. Egypt and Babylon were young with it—it was still young. David had sung and died. Great Caesar stained the senate floor with his ambitious blood. Mahomet fled. Colon Christofer importuned a queen, and the white men found the tree, still standing, still green. They named him for a man known only through that fact—Generalsherman. The Generalsherman Tree.

It had no need of names. It was itself, the eldest citizen, quiet, untroubled, alive and unworried.

He did not stay near it long. It helped him, but its presence was overpowering to him, as it has been to every man who has ever seen it. He went back through the woods, finding the company of those lesser immortals almost jovial by contrast. When he got back near the underground hangar in front of which he had left his runabout, he skirted around it, not wishing to see anyone as yet. He continued on.

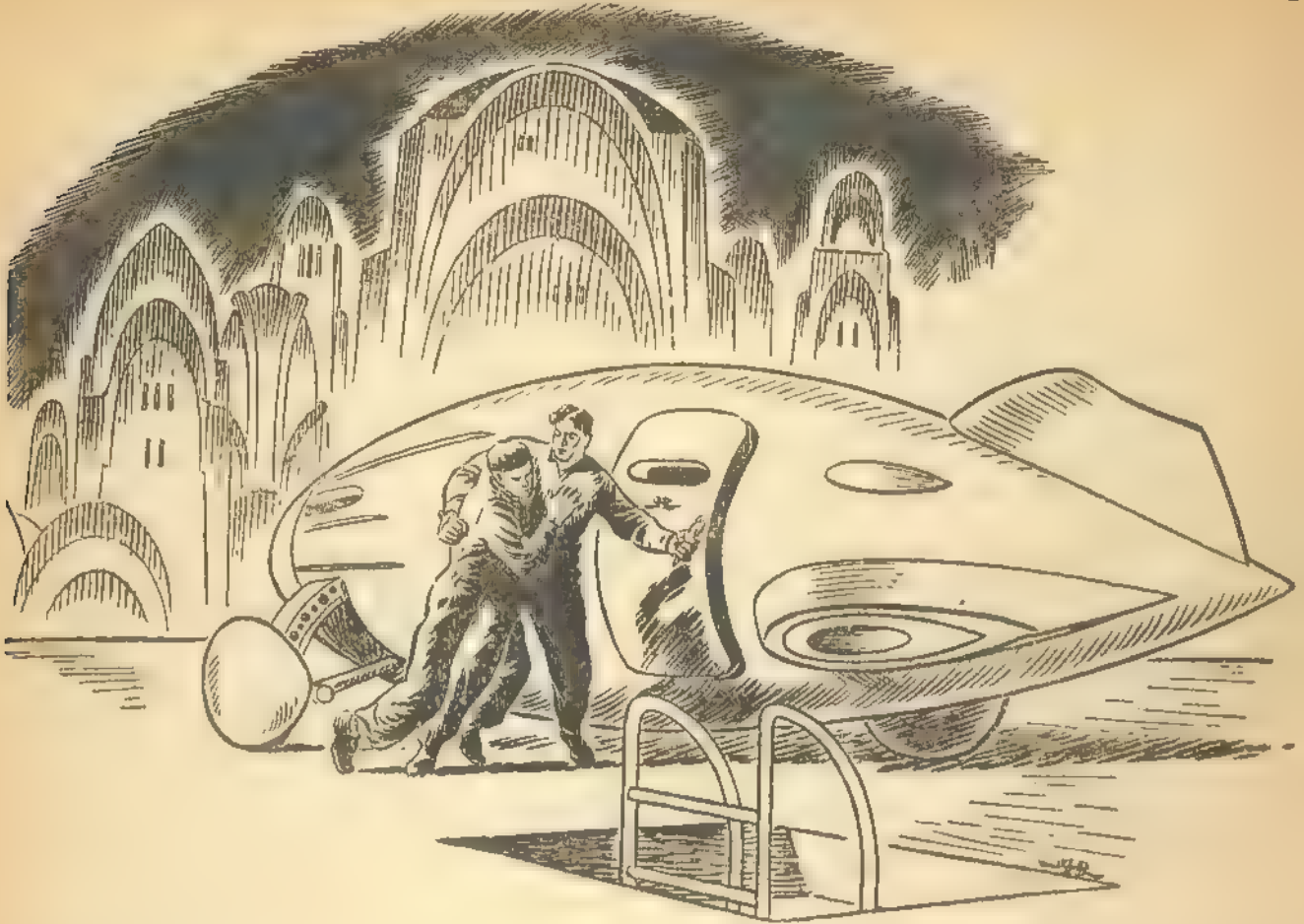
Presently he found his way blocked by a solid gray mass of granite which labored on up out of sight in the mist. A series of flights of steps, cleverly shaped to blend into the natural rock, wound up through its folds. There was a small sign at the foot of the steps: MORO ROCK. He recognized it, both from pictures and a brief glimpse he had had of it through the fog in landing. It was a great gray solid mass of stone, peak high and mountain wide, a fit place for a Sabbath.

He started to climb. Presently the trees were gone. There was nothing but himself, the gray mist, and the gray rock. His feeling for up-and-down grew shaky; he had to watch his feet and the steps to hang on to it.

Once he shouted. The sound was lost and nothing came back.

The way led along a knife edge, on the left a sheer flat slide of rock, on the right bottomless empty gray nothingness. The wind cut cold across it. Then the path climbed the face of the rock again.

He began to hurry; he had reached a decision. He could not hope to emulate the serene, eternal certainty of the old tree—he was not built for it. Nor was he built, he felt sure, for the life he knew. No need to go back to it, no need to face it out with Hamilton nor McFee, whichever won their deadly game. Here was a good place, a place to die with cleanly dignity.



There was a clear drop of a thousand meters down the face of the rock.

He reached the top at last and paused, a little breathless from his final exertion. He was ready and the place was ready—when he saw that he was not alone. There was another figure, prone, resting on elbows, looking out at the emptiness.

He turned, and was about to leave. His resolution was shaken by the little fact of another's presence. He felt nakedly embarrassed.

Then she turned and looked at him. Her gaze was friendly and unsurprised. He recognized her—without surprise, and was surprised that he had not been. He saw that she recognized him.

"Oh, hello," he said stupidly.

"Come sit down," she answered.

He accepted silently, and squatted beside her. She said nothing more at the time, but remained resting on one elbow, watching him—not narrowly, but with easy quietness. He liked it. She gave out warmth, as the redwoods did.

Presently she spoke. "I intended to speak to you after the dance. You were unhappy."

"Yes. Yes, that is true."

"You are not unhappy now."

"No," he found himself saying and realized with a small shock that it was true. "No, I am happy now."

They were silent again. She seemed to have no

need for small speech, nor for restless movement. He felt calmed by her manner himself, but his own calm was not as deep. "What were you doing here?" he asked.

"Nothing. Waiting for you, perhaps." The answer was not logical, but it pleased him.

Presently the wind became more chill and the fog a deeper gray. They started down. The way seemed shorter this time. He made a show of helping her, and she accepted it, although she was more sure-footed than he and they both knew it. Then they were on the floor of the forest and there was no further excuse to touch her hand or arm.

They encountered a group of mule-deer; a five-point buck who glanced at them and returned to the serious business of eating, his dignity undisturbed, two does who accepted them with the calm assurance of innocence long protected, and three fawns. The does were passively friendly, but enjoyed being scratched, especially behind the ears.

The fawns were skittishly curious. They crowded around, stepping on their feet and nuzzling their clothes, then would skitter away in sudden alarm at an unexpected movement, their great soft ears flopping foolishly.

The girl offered them leaves plucked from a shrub, and laughed when her fingers were nibbled. Monroe-Alpha tried it and had to grin—the nib-

bling tickled. He would have liked to have wiped his fingers, but noticed that she did not, and refrained.

He felt a compulsion to unburden himself to her, as they walked along, and tried to, stumblingly. He stopped long before he had made himself clear, and looked at her, half expecting to see disgusted disapproval in her eyes. There was none.

"I don't know what it is you have done," she said, "but you haven't been bad. Foolish, perhaps, but not bad." She stopped, looked a little puzzled, and added reflectively, "I've never met any bad people."

He tried later to describe some of the ideals of the Survivors Club. He spoke of the plans for dealing with the control naturals as being the easiest and clearest to explain. No inhumanity, a bare minimum of necessary coercion, a free choice between a simple sterilizing operation and a trip to the future—all this in the greater interest of the race. He spoke of these things as something that might be done if the people were wise enough to accept it.

She shook her head. "I don't think I would care for it," she said gently, but with clear finality. He dropped the subject.

He was surprised when it became dark. "I suppose we should hurry on to the lodge," he said.

"The lodge is closed." That was true, he remembered. The Park was closed; they were not supposed to be there. He started to ask her if she had a skycar there, or had she come up through the tunnel, but checked himself. Either way, she would be leaving him. He did not want that; he himself was not pressed for time—his forty-eight hours would not be up until the morrow. "I saw some cabins as I came this way," he suggested.

They found them, nestling half hidden in a hollow. They were unfurnished and quite evidently out of service, but strong and weather-tight. He rummaged around in the cupboards and found a little glow-heater with more than enough charge showing on its dial for their needs. Water there was, but no food. It did not matter.

There were not even cushion beds available, but the floor was warm and clean. She lay down, seemed to nestle out a bed in the floor as an animal might, said, "Good night," and closed her eyes. He believed that she went to sleep at once.

He expected to find it hard to get to sleep, but he dozed off before he had time to worry about it.

When he awoke it was with a sense of well-being such as he had not enjoyed in many days—months. He did not attempt to analyze it at once, but simply savored it, wallowed in it, stretching luxuriously while his soul fitted itself, catlike, back into its leasehold.

Then he caught sight of her face, across the cabin floor, and knew why he felt cheerful. She

was still asleep, her head cradled on the curve of her arm. Bright sun flooded in through the window and illuminated her face. It was, he decided, not necessarily a beautiful face, although he could find no fault with it. Its charm lay more in a childlike quality, a look of fresh wonder, as if she greeted each new experience as truly new and wholly delightful—so different, he thought, from the jaundiced melancholy he had suffered from.

Had suffered from. For he realized that her enthusiasm was infectious, that he had caught it, and that he owed his present warm elation to her presence.

He decided not to wake her. He had much to think of, anyhow, before he was ready to talk with another. He saw now that his troubles of yesterday had been sheer funk. McFee was a careful commander; if McFee saw fit to leave him off the firing line, he should not complain or question. "The Whole was greater than the parts." McFee's decision was probably inspired by Felix, anyway—from the best of intentions.

Good old Felix! Misguided, but a good sort anyhow. He would have to see if he couldn't intercede for Hamilton, in the reconstruction. They could not afford to hold grudges—the New Order had no place for small personal emotions. Logic and science.

There would be much to be done and he could still be useful. The next phase started today—rounding up control naturals, giving them their choice of two humane alternatives. Questioning public officials of every sort and determining whether or not they were temperamentally suited to continue to serve under the New Order. Oh, there was much to be done—he wondered why he had felt yesterday that there was no place for him.

Had he been as skilled in psychologies as he was in mathematics he might possibly have recognized his own pattern for what it was—religious enthusiasm, the desire to be a part of a greater whole and to surrender one's own little worries to the keeping of an over-being. He had been told, no doubt, in his early instruction, that revolutionary political movements and crusading religions were the same type-form process, differing only in verbal tags and creeds, but he had never *experienced* either one before. In consequence, he failed to recognize what had happened to him. Religious frenzy? What nonsense—he believed himself to be an extremely hard-headed agnostic.

She opened her eyes, saw him and smiled, without moving. "Good morning," she said.

"Good morning," he agreed. "I neglected to ask your name yesterday."

"My name is Marion," she answered. "What's yours?"

"I am Monroe-Alpha Clifford."

"Monroe-Alpha," she mused. "That's a good line, Clifford. I suppose you—" She got no fur-

ther with her remark; her expression was suddenly surprised, she made two gasping quick intakes of breath, buried her face in her hands, and sneezed convulsively.

Monroe-Alpha sat up abruptly, at once alert and no longer happy. She? Impossible!

But he faced the first test of his new-found resolution firmly. It was going to be damned unpleasant, he realized, but he had to do it. "The Whole is greater than the parts."

He even derived unadmitted melancholy satisfaction from the realization that he could do his duty, no matter how painful. "You sneezed," he said accusingly.

"It was nothing," she said hastily. "Dust . . . dust and the sunshine."

"Your voice is thick. Your nose is stopped up. Tell me the truth. You're a 'natural'—aren't you?"

"You don't understand," she protested. "I'm a . . . oh, dear!" She sneezed twice in rapid succession, then left her head bowed.

Monroe-Alpha bit his lip. "I hate this as much as you do," he said, "but I'm bound to assume that you are a control natural until you prove the contrary."

"Why?"

"I tried to explain to you yesterday. I've got to take you in to the Provisional Committee—what I was talking about is already an established fact." She did not answer him. She just looked. It made him still more uncomfortable. "Come now," he said. "No need to be tragic about it. You won't have to enter the stasis. A simple, painless operation that leaves you unchanged—no disturbance of your endocrine balance at all. Besides, there may be no need for it. Let me see your tattoo."

Still she did not answer. He drew his gun and leveled it at her. "Don't trifle with me. I mean it." He lowered his sights and pinged the floor just in front of her. She flinched back from the burnt wood and the little puff of smoke. "If you force me, I'll burn you. I'm not joking. Let me see your tattoo."

When still she made no move, he got up, went to her, grabbed her roughly by the arm, dragging her to her feet. "Let's see your tattoo."

She hesitated, then shrugged her shoulders. "All right—but you'll be sorry!" She lifted her left arm. As he lowered his head to read the figures tattooed near the armpit she brought her hand down sharply near the wrist joint of his right hand. At the same instant her right fist made a painful surprise in the pit of his stomach.

He dropped his gun.

He dived after the gun before it had clattered to a stop, and was up after her. But she was already gone. The cabin door stood open, framing a picture of sugar pines and redwoods, but no human

figure. A blue jay cursed and made a flicker of blue; nothing else moved.

Monroe-Alpha leaped to the door and looked both ways, covering the same arc with his weapon, but the Giant Forest had swallowed her. She was somewhere close at hand, of course; her flight had disturbed the jay. But where? Behind which of fifty trees? Had there been snow on the ground he would have known, but the snow had vanished, except for bedraggled hollows, and the pine needle carpet of an evergreen forest left no tracks perceptible to his untrained eye—nor was it cluttered with undergrowth to impede and disclose her flight.

He cast around uncertainly like a puzzled hound. He caught a movement from the corner of his eye, turned, saw a flash of white, and fired instantly.

He had hit—that was sure. His target had fallen behind a baby pine which blocked his view, thrashed once, and was quiet. He went toward the little tree with reluctant steps, intending to finish her off mercifully if, by chance, his first bolt had merely mutilated her.

It was not she, but a mule-deer fawn. His charge had burnt away half the rump and penetrated far up into the vitals. The movement he had seen and heard could have been no more than dying reflex. Its eyes were wide open, deer soft, and seemed to him to be filled with gentle reproach. He turned away at once, feeling a little sick. It was the first nonhuman animal he had ever killed.

He spent only a few minutes more searching for her. His sense of duty he quieted by telling himself that she stood no chance of getting away here in a mountain forest anyhow, infected, as he knew her to be, with a respiratory ailment. She would have to give up and turn herself in.

Monroe-Alpha did not return to the cabin. He had left nothing there, and he assumed that the little glow-heater which had kept them warm through the night was equipped with automatic cut-off. If not, no matter—it did not occur to him to weigh his personal convenience against the waste involved. He went at once to the parking lot underground where he found his runabout, climbed in, and started its impeller. There was an immediate automatic response from the Park's signal system, evidenced by glowing letters on the runabout's annunciator: NO CRUISING OVER GIANT FOREST—ANGLE THREE THOUSAND AND SCRAMBLE. He obeyed without realizing it; his mind was not on the conning of the little car.

His mind was not on anything in particular. The lethargy, the bitter melancholy, which had enervated him before the beginning of the Readjustment, descended on him with renewed force. For what good? To what purpose was this blind

senseless struggle to stay alive, to breed, to fight? He drove the little capsule as fast as its impeller would shove it straight for the face of Mount Whitney, with an unreasoned half-conscious intention of making an ending there and then.

But the runabout was not built to crash. With the increase in speed the co-pilot extended the range of its feelers; the klystrons informed the tracker; solenoids chattered briefly and the car angled over the peak.

VIII.

As he turned his back on the lifting runabout into which he had shanghaied Monroe-Alpha, Hamilton dismissed his friend from his mind—much to do and damned little time. Hurry!

He was surprised and not pleased to find that the door giving down into the building from the roof responded at once to the code used by the clinic staff—a combination Mordan had given him. Nor were there guards beyond the door. Why, the place might as well be wide open!

He burst into Mordan's office with the fact on his mind. "This place is as unprotected as a church," he snapped. "What's the idea?" He looked around. In addition to Mordan the room contained Bainbridge Martha, his chief of technical staff, and Longcourt Phyllis. His surprise at Phyllis' presence was reinforced by annoyance at seeing she was armed.

"Good evening, Felix," Mordan answered mildly. "Why should it be protected?"

"Good grief! Aren't you going to resist attack?"

"But," Mordan pointed out, "there is no reason to expect attack. This is not a strategic point. No doubt they plan to take the clinic over later but the fighting will be elsewhere."

"That's what you think. I know better."

"Yes?"

"I was assigned to come here to kill you. A section follows me to seize the clinic."

Mordan made no comment. He sat still, face impassive. Hamilton started to speak; Mordan checked him with a raised hand. Twenty seconds later he said, "There are only three other men in the building besides ourselves. None of them are gunmen. How much time have we?"

"Ten minutes—or less."

"I'll inform the central peace station. They may be able to divert a few reserve monitors. Martha, send the staff home." He turned to the telephone.

The lighting flickered sharply, was replaced at once by a lesser illumination. The emergency lighting had cut in. No one needed to be told that Power Central was out. Mordan continued to the phone—it was dead.

"The building cannot be held by two guns," he observed, as if thinking aloud. "Nor is it necessary. There is just one point necessary to protect

—the plasm bank. Our friends are not completely stupid, but it is still bad strategy. They forget that a trapped animal will gnaw off a leg. Come, Felix. We must attempt it."

The significance of the attack on the clinic raced through Hamilton's mind. The plasm bank. The one here in the Capital's clinic was repository of the plasm of genius for the past two centuries. If the rebels captured it, even if they did not win, they would have a unique and irreplaceable hostage. At the worst they could exchange it for their lives."

"What do you mean, 'two guns'?" demanded Longcourt Phyllis. "What about this?" She slapped her belt.

"I daren't risk you," Mordan answered. "You know why."

Their eyes locked for a moment. She answered with two words. "Fleming Marjorie."

"Hm-m-m. I see your point. Very well."

"What's she doing here, anyhow?" demanded Hamilton. "And who is Fleming Marjorie?"

"Phyllis came here to talk with me—about you. Fleming Marjorie is another fifth cousin of yours. Quite a good chart. Come!" He started away briskly.

Hamilton hurried after him, thinking furiously. The significance of Mordan's last remarks broke on him with a slightly delayed action. When he understood he was considerably annoyed, but there was no time to talk about it. He avoided looking at Phyllis.

Bainbridge Martha joined them as they were leaving the room. "One of the girls is passing the word," she informed Mordan.

"Good," he answered without pausing.

The plasm bank stood by itself in the middle of a large room, a room three stories high and broad in proportion. The bank itself was arranged in librarylike tiers. A platform divided it halfway up, from which technicians could reach the cells in the upper level.

Mordan went directly to the flight of stairs in the center of the mass and climbed to the platform. "Phyllis and I will cover the two front doors," he directed. "Felix, you will cover the rear door."

"What about me?" asked his chief of staff.

"You, Martha? You're not a gunman."

"There's another gun," she declared, pointing at Hamilton's belt. Hamilton glanced down, puzzled. She was right. He had stuffed the gun he had taken from Monroe-Alpha under his belt. He handed it to her.

"Do you know how to use it?" asked Mordan.

"It will burn where I point it, won't it?"

"Yes."

"That's all I want to know."

"Very well. Phyllis, you and Martha cover the back door. Felix and I will take a front door apiece."

The balcony platform was surrounded by a railing, waist high and not quite one solid piece, for it was pierced here and there with small openings—part of an ornamental design. The plan was quite simple—crouch behind the railing, spy out the doors through the openings and use them as loopholes through which to fire.

They waited.

Hamilton got out a cigarette with one hand, stuck it in his mouth and inhaled it into burning, without taking his eyes off the left-hand door. He offered the case to Mordan, who pushed it away.

"Claude, there's one thing I can't figure out—"

"So?"

"Why in the world the government didn't bust this up before it had gone so far. I gather that I wasn't the only stoolie in the set-up. Why didn't you smear it?"

"I am not the government," Mordan answered carefully, "nor am I on the Policy Board. I might venture an opinion."

"Let's have it."

"The only certain way to get all the conspirators was to wait until they showed themselves. Nor will it be necessary to try them—an unsatisfactory process at best. This way they will be exterminated to the last man."

Hamilton thought about it. "It does not seem to me that the policy makers are justified in risking the whole State by delaying."

"Policy makers take a long view of things. Biologically it is better to make sure that the purge is clean. But the issue was never in doubt, Felix."

"How can you be sure? We're in a sweet spot now, as a result of waiting."

"You and I are in jeopardy, to be sure. But the society will live. It will take a little time for the monitors to recruit enough militia to subdue them in any key points they may have seized, but the outcome is certain."

"Damnation!" complained Hamilton. "It shouldn't be necessary to wait to stir up volunteers among the citizens. The police force should be large enough."

"No," said Mordan. "No, I don't think so. The police of a State should never be stronger or better armed than the citizenry. An armed citizenry, willing to fight, is the foundation of civil freedom. That's a personal evaluation, of course."

"But suppose they don't? Suppose these rats win? It's the Policy Board's fault."

Mordan shrugged. "If the rebellion is successful, notwithstanding an armed citizenry, then it has justified itself—biologically. By the way, be a little slow in shooting, if the first man comes through your door."

"Why?"

"Your weapon is noisy. If he is alone, we'll gain a short delay."

They waited. Hamilton was beginning to think that his timepiece had stopped, until he realized that his first cigarette was still burning. He glanced quickly back at his door, and said, "Pssst!" to Mordan, and shifted his watching to the other door.

The man entered cautiously, weapon high. Mordan led him with his gunsight until he was well inside and had stepped out of direct line of sight of the door. Then he let him have it, neatly, in the head. Mordan glanced at him, and noticed that it was a man he had had a drink with earlier in the evening.

The next two came in a pair. Mordan motioned for him not to shoot. He was not able to wait so long this time; they saw the body as soon as they were in the doorway. Hamilton noted with admiration that he was unable to tell which one had been shot first. They seemed to drop simultaneously.

"You need not honor my fire next time," Mordan remarked. "The element of surprise will be lacking." Over his shoulder he called, "First blood, ladies. Anything doing there?"

"Not yet."

"Here they come!" *Ba-bang! Bang!* Hamilton had fired three times, winged three men. One of them stirred, attempted to raise himself and return the fire. He let him have one more bullet, which quieted him. "Thank you," said Mordan.

"For what?"

"That was my file secretary. But I would rather have killed him myself."

Hamilton cocked an eyebrow at him. "I think you once told me that a public official should try to keep his personal feelings out of his work?"

"That's true—but there is no rule saying I can't enjoy my work. I wish he had come in my door. I liked him."

Hamilton noted that Mordan had accounted for four more, silently, while Hamilton was so noisily stopping the rush at his own door. That made five at his door, one in between, and four at Mordan's. "If they keep this up, they'll have a barricade of living flesh," he commented.

"Formerly living," Mordan corrected. "Haven't you been at that same loophole a bit too long?"

"I stand corrected on both counts." He shifted to another spot, then called back, "How is it coming, girls?"

"Martha got one," Phyllis sang out.

"Good for her! What's the matter with you?"

"I'm doing all right."

"Fine. Burn 'em so they don't wiggle."

"They don't," she stated briefly.

There were no more rushes. A portion of a head would peek out cautiously, its owner would blast once quickly without proper aim, the man would

duck back. They returned the fire, but with little expectation of hitting anything. The targets never appeared twice in the same spot, and for split seconds only. They crept back and forth along the balcony, trying to enfilade the rooms beyond, but their antagonists had become cagy.

"Claude—I just thought of something funny."

"So?"

"Suppose I get killed in this. You get your own way in our argument, don't you?"

"Yes. What's the joke?"

"But if I get knocked over, you'll probably be dead, too. You told me my deposit was listed only in your mind. You win and you lose."

"Not exactly. I said it was not on file. But it's identified in my will—my professional executor will carry out the plan."

"Oho. So I'm a papa anyhow." He fired once at a shape that suddenly appeared in his door. There was a yelp of anguish, and the shape drew back. "Lousy," he deplored. "I must be losing my eyesight." He banked a slug off the floor in front of his door, letting it thereby ricochet loosely in the room beyond. He did the same through Mordan's door. "That's to teach 'em to keep their heads down. Look, Claude—if you had your choice, which would you prefer: For both of us to be knocked over and thereby insure your own way about my hypothetical offspring, or for both of us to get through it and be back where we started?"

Mordan considered the question. "I think I would rather try to argue you around to my viewpoint. I'm afraid there isn't much of the martyr spirit in me."

"That's what I thought."

Somewhat later Mordan said, "Felix, I think they have taken to drawing our fire. I don't think that was a face I shot at last time."

"I believe you're right. I *couldn't* have missed a couple of times lately."

"How many shots have you left?"

Hamilton did not need to count; he knew—and it had been worrying him. He had four clips when he left for the Hall of the Wolf—three in his belt, one in his gun, twenty-eight shots in all. The last clip was in his gun; he had fired two shots from it. He held up one hand, fingers spread. "How about yourself?"

"About the same. I *could* use half charge for this sparring." He thought a moment. "Cover both doors." He crawled rapidly away through the stacks to where the two women kept guard on the rear door.

Martha heard him and turned. "Look at this, chief," she insisted, holding out her left hand. He looked—the first two joints of the forefinger were burned away and the tip of the thumb—cleanly cauterized. "Isn't that a mess?" she complained.

"I'll never be able to operate again. No manipulation."

"Your assistants can operate. It's your brain that counts."

"A lot you know about it. They're clumsy—every blessed one of them. It's a miracle they can dress themselves."

"I'm sorry. How many charges have you left?"

The picture was no better here. Phyllis' lady's weapon had been only a twenty-gun to start with. Both Mordan's and Monroe-Alpha's were fifty-guns, but the gun expropriated from Monroe-Alpha had started the evening even more depleted than Mordan's. Phyllis had withdrawn Martha from anything more than stand-by when she had been wounded, planning to use the gun herself when her own was exhausted.

Mordan cautioned them to be still more economical with their shooting and returned to his post. "Anything happened?" he asked.

"No. What's the situation?"

Mordan told him.

Hamilton whistled tunelessly, his eye on his target. "Claude?"

"Yes, Felix."

"Do you think we are going to get out of this?"

"No, Felix."

"Hm-m-m. Well, it's been a nice party." A little later he added, "Damn it—I don't want to die. Not just yet."

"Claude, I've thought of another joke."

"Let's have it."

"What's the one thing that could give life point to it—*real* point?"

"That," Mordan pointed out, "is the question I've been trying to answer for you all along."

"No, no. The question itself."

"You state it," Mordan parried cautiously.

"I will. The one thing that could give us some real basis for our living is to know *for sure* whether or not anything happens after we die. When we die, do we die all over—or don't we?"

"Hm-m-m—granting your point, what's the joke?"

"The joke is on me. Or rather on my kid. In a few minutes I'll probably know the answer. But he won't. He's sitting back there right now—in a way—sleeping in one of those freezers. And there is no way on earth for me to let him know the answer. *But he's the one that will need to know.* Isn't that funny?"

"Hm-m-m. If that's your idea of a joke, Felix, I suggest that you stick to parlor tricks."

Hamilton shrugged jauntily. "I'm considered quite a wit in some circles," he bragged. "Sometimes I wow myself."

"Here they come!" It was an organized rush this time, spreading fanwise from both doors.

They were both very busy for perhaps two seconds, then it was over. "Any get through?"

"Two, I think," Mordan answered. "You cover the stairs. I'll stay here." It was not personal caution, but tactics. Mordan's eye and hand were fast, but Hamilton was the younger, abler man.

He watched the stairs on his belly, most of his body shielded by the stacks. He was lucky on the first shot—his man stuck his head up facing the other way. Hamilton sent him down with a hole in the back of his skull and his forehead blown away. He then shifted quickly to the far side of the stair well. But his gun was empty.

The second man came up fast. Hamilton slugged him with the empty weapon and grappled, trying to get inside his range. The man almost fought free, dragging them both part way into the stair-case, but Hamilton jerked back on his head, hard. There was a crunch of bone; he went limp.

Hamilton reported back to Mordan.

"Good. Where's your gun?" Hamilton shrugged and spread his palms. "There ought to be a couple o' guns at the foot of the stairs," he suggested.

"You wouldn't last long enough to stoop over for them. You stay up here. Go back and get Martha's."

"Yes, sir."

He crawled back, explained what he wanted, and told Martha to hide in the stacks. She protested. "Chief's orders," he lied. Then to Phyllis, "How are you doing, kid?"

"All right."

"Keep your chin up and your head down." He glanced at the meters on both guns. They had the same charge. He holstered Monroe-Alpha's gun, shot a quick look at the door Phyllis was covering, then grabbed her chin, turned her face around, and kissed her quickly.

"That's for keeps," he said, and turned away at once.

Mordan reported no activity. "But there will be," he added. "We don't dare waste shots on casual targets and they will soon realize it."

It seemed an interminable wait. They grimly forbore accepting the targets they were offered. "I think," said Mordan at last, "that we had better expend one charge on the next thing that appears. It might cause a worth-while delay."

"You don't have any silly notion that we are going to get out of this now, do you? I've begun to suspect that the monitors don't even know this point was attacked."

"You may be right. But we'll keep on."

"Oh, of course."

They had a target soon—plain enough to be sure that it was a man, and not a decoy. Mordan stung him. He fell in sight, but shots were scarce—he was allowed to crawl painfully back out of range.

Hamilton looked up for a moment. "See here, Claude—it *would* be worth-while, you know—to

know what happens after the lights go out. Why hasn't anyone tackled it seriously?"

"Religions do. Philosophies do."

"That isn't what I mean. It ought to be tackled the same as any other—" He stopped. "Do you smell anything?"

Mordan sniffed. "I'm not sure. What does it smell like?"

"Sweetish. It—" He felt suddenly dizzy, a strange sensation for him. He saw two of Mordan. "Gas. They've got us. So long, pal." He tried to crawl to the passageway down which Phyllis was on duty, but he achieved only a couple of clumsy, crawling steps, fell on his face, and lay still.

IX.

It was pleasant to be dead. Pleasant and peaceful, not monotonous. But a little bit lonely. He missed those others—serene Mordan, the dauntless gallantry of Phyllis, Cliff and his frozen face. And there was that funny little man, pathetic little man who ran the Milky Way Bar—what had he named him? He could see his face, but what had he named him? Herbie, Herbert, something like that—names didn't taste the same when words were gone. Why had he named him Herbert?

Never mind. Next time he would not choose to be a mathematician. Dull, tasteless stuff, mathematics—quite likely to give the game away before it was played out. No fun in the game if you knew the outcome. He had designed a game like that once, and called it "Futility"—no matter how you played, you had to win. No, that wasn't himself, that was a player called Hamilton. Himself wasn't Hamilton—not this game. He was a geneticist—that was a good one!—a game within a game. Change the rules as you go along. Move the players around. Play tricks on yourself:

"Don't you peek and close your eyes,

And I'll give you something to make a s'prise!"

That was the essence of the game—surprise. You locked up your memory, and promised not to look, then played through the part you had picked with just the rules assigned to that player. Sometimes the surprises were pretty ghastly though—he didn't like having his fingers burned off.

No! He hadn't played that position at all. That piece was an automatic, some of the pieces had to be. Himself had burned off that piece's fingers, though it seemed real at the time.

It was always like this on first waking up. It was always a little hard to remember which position himself had played, forgetting that he had played all of the parts. Well, that was the game; it was the only game in town, and there was nothing else to do. Could he help it if the game was crooked? Even if he had made it up and played all the parts.

But he would think up another game next time. Next time—

His eyes didn't work right. They were open but he couldn't see anything. A hell of a way to run things—some mistake.

"Hey! What's going on here?"

It was his own voice. He sat up, the cloth fell from his eyes. Everything was too bright; his eyes smarted.

"What's the trouble, Felix?" He turned in the direction of the voice and strove to focus his aching eyes. It was Mordan, lying a few feet away. There was something he wanted to ask Mordan, but it escaped him.

"Oh, Claude. I don't feel right. How long have we been dead?"

"We aren't dead. You're just a bit sick. You'll get over it."

"Sick? Is that what it is?"

"Yes. I was sick once, about thirty years ago. It was much like this."

"Oh—" There was still something he wanted to ask Mordan, but he couldn't for the life of him recall what it was. It was important, too, and Claude would know. Claude knew everything—he made the rules.

That was silly! Still, Claude would know.

"Do you want to know what happened?" Mordan asked.

Maybe that was it. "They gassed us, didn't they? I don't remember anything after that." That wasn't quite right—there was something else. He couldn't recall.

"We were gassed, but it was done by our own monitors. Through the conditioning system. We were lucky. No one knew we were under siege inside, but they could not be sure that all of the staff were out of the building—else they would have used a lethal gas."

His head was clearing now. He remembered the fight in detail. "So? How many were left? How many did we fail to get?"

"I don't know exactly, and it's probably too late to find out. They are probably all dead."

"Dead? Why? They didn't burn them after they were down, did they?"

"No. But this gas we took is lethal without an immediate antidote—and I'm afraid that the therapists were a little bit overworked. Our own people came first."

Hamilton grinned. "You old hypocrite. Say! How about Phyllis?"

"She's all right, and so is Martha. I ascertained that when I woke up. By the way, do you know that you snore?"

"Do I, really?"

"Outrageously. I listened to your music for more than an hour. You must have had a heavier

dose of gas than I had. Perhaps you struggled."

"Maybe. I wouldn't know. Say, where are we?" He swung his legs out of bed, and attempted to stand. It was a foolish attempt; he just missed falling on his face.

"Lie down," ordered Mordan. "You won't be fit for several hours yet."

"I guess you're right," Hamilton admitted, sinking back on the cushion. "Say, that's a funny feeling. I thought I was going to fly."

"We're next door to the Carstairs Infirmary, in a temporary annex," Mordan continued. "Naturally, things are a bit crowded today."

"Is the party all over? Did we win?"

"Of course we won. I told you the issue was never in doubt."

"I know you did, but I've never understood your confidence."

Mordan considered how to reply to this. "Perhaps," he said, "it would be simplest to state that they never did have what it takes. The leaders



were, in most cases, genetically poor types, with conceit far exceeding their abilities. I doubt if any one of them had sufficient imagination to conceive logically the complexities of running a society, even the cut-to-measure society they dreamed of."

"They talked as if they did."

Mordan nodded. "No doubt. It's a common fallacy and it has been with the race as long as the race has had social organization. A little businessman thinks his tiny business is as complex and difficult as the whole government. By inversion, he conceives himself as competent to plan the government as the chief executive. Going further back in history, I've no doubt that many a peasant thought the job of the king was a simple one and that he could do it better if he only had the chance. What it boils down to is lack of imagination and overwhelming conceit."

"I would never have thought them lacking in imagination."

"There is a difference between constructive imagination and wild, uncontrolled daydreams. The latter is psychopathic—megalomania—unable to distinguish between fact and fancy. The other is hard-headed. In any case, the fact remains that they did not have a single competent scientist, nor a synthesist of any sort, in their whole organization. I venture to predict that, when we get around to reviewing their records, we will find that the rebels were almost all—all, perhaps—men who had never been outstandingly successful at anything. Their only prominence was among themselves."

Hamilton thought this over to himself. He had noticed something of the sort. They had seemed like thwarted men. He had not recognized a face among them as being anyone in particular outside the Survivors Club. But inside the club they were swollen with self-importance, planning this, deciding that, talking about what they would do when they "took over." Pipsqueaks, the lot of 'em.

But dangerous pipsqueaks, no matter what Mordan said. You were just as dead, burned by a childish man, as you would be if another killed you.

"Felix, are you still awake?"

"Yes."

"Do you recall the conversation we were having during the fight?"

"Why, um . . . yes . . . yes, I think I do."

"You were about to say something when the gas hit us."

Hamilton was slow in replying. He recalled what had been on his mind but it was difficult to fit it into adequate words. "It's like this, Claude. It seems to me that scientists tackle every problem but the important ones. What a man wants

to know is 'Why?'—all that science tells him is 'What.'"

"'Why' isn't the business of science. Scientists observe, describe, hypothecate, and predict. 'What' and 'How' is their whole field; 'Why' doesn't enter it."

"Why shouldn't 'Why' enter into it? I don't want to know how far it is from here to the Sun; I want to know why the Sun is there—and why I am standing here looking at it. I ask what life is for, and they show me a way to make better bread."

"Food is important. Try going without it."

"Food isn't important after you've solved that problem."

"Were you ever hungry?"

"Once—when I was studying basic socio-economics. But it was just instructional. I never expect to be hungry again—and neither does anybody else. That's a solved problem and it answers nothing. I want to know 'What next? Where to? What for?'"

"I had been thinking about these matters," Mordan said slowly, "while you were sleeping. The problems of philosophy seem to be unlimited, and it is not too healthy to dwell on unlimited questions. But last night you seemed to feel that the key problem, for you, was the old, old question as to whether a man was anything more than his hundred years here on earth? Do you still feel that way?"

"Yes— I think I do. If there was anything, anything more at all, after this crazy mix-up we call living, I could feel that there might be some point to the whole frantic business, even if I did not know and could not know the full answer while I was alive."

"And suppose there was not? Suppose that when a man's body disintegrates, he himself disappears absolutely. I'm bound to say I find it a probable hypothesis."

"Well— It wouldn't be cheerful knowledge, but it would be better than not knowing. You could plan your life rationally, at least. A man might even be able to get a certain amount of satisfaction in planning things better for the future, after he's gone. A vicarious pleasure in the anticipation."

"I assure you he can," Mordan stated, from his own inner knowledge. "But, I take it, either way, you would feel that the question you posed to me in our first interview was fairly answered."

"Mm-m-m, yes."

"Whereupon you would be willing to co-operate in the genetics program planned for you?"

"Yes, if."

"I don't propose to give you an answer here and now," Mordan answered equably. "Would you be willing to co-operate if you knew that a serious attempt was being made to answer your question?"

"Easy there! Wait a minute. You-win-and-I-

lose. I ought to be entitled to look at the answer. Suppose you do assign someone to look into the matter and he comes back with a negative report—after I've fulfilled my part of the bargain?"

"It would be necessary for you to place credence in me. Such a research might not be completed in years, or in our lifetimes. But suppose I declare to you that such a research were to be attempted, seriously, hard-headedly, all out, and no trouble spared, would you then consent to co-operate?"

Hamilton covered his face with his hands. There were myriad factors revolving in his brain—of some of which he was not fully aware, none of which he wished to talk about. "If you did . . . if you did—I think perhaps—"

"Here, here," a voice boomed in the room. "What's going on in here? Mustn't excite yourselves yet."

"Hello, Joseph," Mordan greeted the newcomer.

"Morning, Claude. Feel better?"

"Much."

"You still need sleep. Put yourself to sleep."

"Very well." Mordan closed his eyes.

The man called Joseph stepped up to Felix, felt his wrist, peeled back his eyelid, and examined the eye. "You'll do."

"I want to get up."

"Not yet. I want you to sleep for a few hours first. Look at me. You feel sleepy. You—"

Felix tore his gaze away from the man's eyes and said, "Claude!"

"He's asleep. You can't possibly wake him."

"Oh. See here, you're a therapist, aren't you?"

"Certainly."

"Is there anything that can be done to cure snoring?"

The man chuckled. "All I can suggest is that you sleep through it. Which is what I want you to do now. You are sleepy. You are falling asleep. Sleep—"

When they let him go he tried to look up Phyllis. It was difficult to find her, to begin with, since the meager hospital accommodations of the city were overcrowded and she had been ministered to, as he had been, in temporary quarters. When he did find her, they wouldn't let him in—she was sleeping, they said. Nor were they inclined to give him any information as to her condition; he could show no claim on such knowledge and it was clearly in the private sphere.

He made such a nuisance of himself that he was finally told that she was entirely well, save for a slight indisposition pursuant to gas poisoning. He had to be contented with that.

He might have gotten himself into serious trouble had he been dealing with a man, but his argument was with a grimly inflexible matron, who was about twice as tough as he was.

He had the faculty of dismissing from mind that

which could not be helped. Phyllis was not on his mind once he had turned away. He started for his apartment automatically, then recalled, for the first time in a good many hours, Monroe-Alpha.

The fool, the silly fool! He wondered what had happened to him. He was reluctant to inquire since to do so might give away Monroe-Alpha's connection with the conspiracy—although it seemed likely that he had already found some means to do that himself.

It did not occur to him then, or at any other time, to "do the honorable thing" by reporting Monroe-Alpha. His morals were strictly pragmatic, and conformed to accepted code as closely as they did only through a shrewd and imaginative self-interest.

He called Monroe-Alpha's office—no, he was not there. He called his apartment. No answer. Temporarily blocked, he decided to go to his friend's apartment on the assumption that he might show up there first.

He got no response at the door. He knew the combination but ordinarily would not think of using it. This seemed to him an extraordinary occasion.

Monroe-Alpha was sitting in his lounging room. He looked up when Hamilton entered, but did not rise and said nothing. Hamilton walked over and planted himself in front of him. "So you're back?"

"Yes."

"How long have you been back?"

"I don't know. Hours."

"You have? I signaled your phone."

"Oh, was that you?"

"Certainly it was. Why didn't you answer?"

Monroe-Alpha said nothing, looked at him dully, and looked away. "Snap out of it, man," Hamilton commanded, by now exasperated. "Come to life. The putsch failed. You know that, don't you?"

"Yes." Then he added, "I'm ready."

"Ready for what?"

"You've come to arrest me, haven't you?"

"Me? Great Egg! I'm no monitor."

"It's all right. I don't mind."

"Look here, Cliff," Hamilton said seriously. "What's gotten into you? Are you still filled up with the guff McFee dished out? Are you determined to be a martyr? You've been a fool—there's no need to be a damned fool. I've reported that you were an agent of mine." (In this he anticipated a decision he had made at the moment; he would carry it out later—if necessary.) "You're all in the clear."

"Well, speak up. You didn't get in on the fighting, did you?"

"No."

"I didn't think you would, after the hypno pills I stuffed down you. One more and you would have listened to the birdies. What's the trouble, then?"

"Are you still fanatical about this damned Survivors Club tommyrot?"

"No. That was a mistake. I was crazy."

"I'll say you were crazy! But see here—you don't rate it, but you're getting away with it, cold. You don't have to worry. Just slide back in where you were and no one's the wiser."

"It's no good, Felix. Nothing's any good. Thanks, just the same," he smiled briefly and wanly.

"Well, for the love o'— I've a good mind to paste you right in the puss, just to get a rise out of you." Monroe-Alpha did not answer. His face he had let sink down into his hands; he showed in no way that he had even heard. Hamilton shook his shoulder.

"What's the matter? Did something else happen? Something I don't know about?"

"Yes." It was barely a whisper.

"Do you want to tell me about it?"

"It doesn't matter." But he did start to tell of it; once started he went on steadily, in a low voice and without raising his head. He seemed to be talking only to himself, as if he were repeating over something he wished to learn by heart.

Hamilton listened uneasily, wondering whether or not he should stop him. He had never heard a man bare his secret thoughts as Monroe-Alpha was doing. It seemed indecent.

But he went on and on, until the whole pitiful, silly picture was mercilessly sharp. "And so I came back here," he concluded at last. He said nothing further, nor did he look up.

Hamilton looked amazed. "Is that all?"

"Yes."

"You're sure you haven't left out anything?"

"No, of course not."

"Then what, in the Name of the Egg, are you doing here?"

"Nothing. There wasn't any place else to go."

"Cliff, you'll be the death of me, yet. Get going. Get started. Get up off that fat thing you're sitting on and get a move on."

"Huh? Where?"

"After her, you bubble-brained idiot! Go find her."

Monroe-Alpha shook his head wearily. "You must not have listened. I tell you I tried to burn her."

Hamilton took a deep breath, let it out, then said, "Listen to me. I don't know much about women, and sometimes it seems like I didn't know anything about them. But I'm sure of this—she won't let a little thing like you taking a pot shot at her stand in the way if you ever had any chance with her at all. She'll forgive you."

"You don't really mean that, do you?" Monroe-Alpha's face was still tragic, but he clutched at the hope.

"Certainly I do. Women will forgive anything."

With a flash of insight he added, "Otherwise the race would have died out long ago."

X.

"I cannot say," remarked the Honorable Member from Great Lakes Central, "that I place high evaluation on Brother Mordan's argument that this project should be taken up to get young Hamilton's consent to propagate. It is true that I am not entirely familiar with the details of the genetic sequence involved—"

"You should be," Mordan cut in somewhat acidly. "I supplied full transcript two days ago."

"I beg your pardon, brother. In those forty-eight hours I have held hearings steadily. The Mississippi Valley matter, you know. It's rather urgent."

"I'm sorry," Mordan apologized. "It's easy for a layman to forget the demands on a Planner's time."

"Never mind. No need for finicky courtesy among ourselves. I scanned the brief and the first sixty pages while we were assembling; that, with such previous knowledge of the case as I had, gives me a rough idea of your problem. But tell me, am I correct in thinking that Hamilton holds nothing exclusively in his chart? You have alternative choices?"

"Yes."

"You expected to finish with his descendant generation . . . how many generations would be required, using alternative choices?"

"Three additional generations."

"That is what I thought, and that is my reason for disagreeing with your argument. The genetic purpose of the sequence is, I think, of great importance to the race, but a delay of a hundred years, more or less, is not important—not sufficiently important to justify an undertaking as major as a full effort to investigate the question of survival after death."

"I take it," put in the Speaker for the Day, "that you wish to be recorded as opposing Brother Mordan's proposal?"

"No, Hubert, no. You anticipate me—incorrectly. I am supporting his proposition. Notwithstanding the fact that I consider his reasons, though good, to be insufficient, I evaluate the proposal as worth while in itself. I think we should support it fully."

The member from the Antilles looked up from the book he was reading—not rudeness; everyone present knew that he had parallel mental processes and no one expected him to waste half the use of his time out of politeness—and said, "I think George should amplify his reason."

"I will. We policy men are like a pilot who is attempting to do a careful job of conning his ship without having any idea of his destination. Ham-

ilton has put his finger on the weak point in our whole culture—he should be a Planner himself! Every decision that we make, although it is based on data, is shaped by our personal philosophies. The data is examined in the light of those philosophies. How many of you have an opinion about survival-after-death? I ask for a show of hands. Come now, be honest with yourselves."

Somewhat hesitantly they put their hands up—men and women alike, every one of them. "Now," the Great Lakes member continued, "the hands of those who are sure that their opinions are correct."

All of the hands went down, save that of the member from Patagonia. "Bravo!" Rembert of the Lakes called out. "I should have guessed that you would be sure."

She took the cigar out of her mouth, said rather sharply, "Any fool knows that one," and went back to her needlework. She was something over a hundred years old, and the only control natural on the Board. Her district had confirmed her tenure regularly for more than fifty years. Her eyesight was thought to be failing, but she had all of her own yellow teeth. Her wrinkled, mahogany features showed more evidence of Indian blood than Caucasian. They all claimed to be a little afraid of her.

"Carvala," Rembert said to her, "perhaps you can cut the matter short by giving us the answer."

"I can't tell you the answer—and you wouldn't believe me if I did." She was silent for a moment, then added, "Let the boy do as he pleases. He will anyway."

"Do you support or oppose Mordan's proposition?"

"Support. Not that you're likely to go at it right."

There was a short silence. Every member in the chamber was busily reviewing to himself—trying to recall when, if ever, Carvala had been proven to be on the wrong side of a question—in the long run.

"It would seem obvious," Rembert continued, "to me, that the only rational personal philosophy based on a conviction that we die *dead*, never to rise again, is a philosophy of complete hedonism. Such a hedonist might seek his pleasure in life in very subtle, indirect, and sublimated fashions; nevertheless pleasure must be his only rational purpose—no matter how lofty his conduct may appear to be from the outside. On the other hand, the possibility of *something* more to life than the short span we see opens up an unlimited possibility of evaluations other than hedonistic. It seems to me a fit subject to investigate."

"Granting your point," commented the woman representing the Northwest Union, "is it our business to do so? Our functions and our authority

are limited; we are forbidden by constitution from meddling with spiritual matters. How about it, Johann?"

The member addressed was the only priest *persona* among them, he being the Most Reverend Mediator to some millions of his coreligionists south of the Rio Grande. His political prominence was the more exceptional in that the great majority of his constituents were not of his faith. "I do not see, Geraldine," he replied, "that the constitutional restriction applies. What Brother Mordan proposes is a coldly scientific investigation. Its consequences may have spiritual implications, if there are positive results, but an unbiased investigation is no violation of religious freedom."

"Johann is right," said Rembert. "There is no subject inappropriate for scientific research. Johann, we've let you fellows have a monopoly of such matters for too long. The most serious questions in the world have been left to faith or speculation. It is time for scientists to cope with them, or admit that science is no more than pebble counting."

"Go ahead. I shall be interested in seeing what you can make of them—in laboratories."

Hoskins Geraldine looked at him. "I wonder, Johann, what your attitude will be if this research should turn up facts which contravert some one of your articles of faith?"

"That," he answered imperturbably, "is a matter for me to settle with myself. It need not affect this Board."

"I think," observed the Speaker for the Day, "that we might now seek a preliminary expression of opinion. Some support the proposal—are any opposed?" There was no response. "Are any undecided?" There was still no response, but one member stirred slightly. "You wished to speak, Richard?"

"Not yet. I support the proposal, but I will speak to it later."

"Very well. It appears to be unanimous. It is so ordered. I will co-opt an instigator later. Now, Richard?"

The member-at-large for transient citizens indicated that he was ready. "The research does not cover enough territory."

"Yes."

"When it was proposed as a means of persuading Hamilton Felix to accede to the wishes of the State geneticists it was sufficient. But we are now undertaking it for itself. Is that not true?"

The Speaker glanced around the room, picking up nods from all but ancient Carvala—she seemed uninterested in the whole matter. "Yes, that is true."

"Then we should undertake not just one of the problems of philosophy, but all of them. The same reasons apply."

"Mm-m-m. We are under no necessity of being consistent, you know."

"Yes, I know, and I am not trammelled by the meshes of verbal logic. I am interested. I am stimulated by the vista. I want us to extend the research."

"Very well. I am interested, too. I think we might well spend the next several days discussing it. I will postpone co-opting the instigator until we determine just how far we will go."

Mordan had been intending to ask to be excused, his mission accomplished, but, at this new twist, fire and earthquake, garnished with pretty girls, could not have tempted him to leave. As a citizen, he was entitled to listen if he chose; as a distinguished synthesist himself, no one would think of objecting to his physical presence in the circle of discussion. He stayed.

The member for transients went on, "We should enumerate and investigate all of the problems of philosophy, especially the problems of metaphysics and epistemology."

"I had thought," the Speaker said mildly, "that epistemology had been pretty well settled."

"Certainly, certainly—in the limited sense of agreeing on the semantic nature of symbolic communication. Speech and other communication symbols necessarily refer back to agreed-upon, *pointed-to* referent physical facts, no matter how high the level of abstraction, for communication to take place. Beyond that we cannot communicate. That's why Brother Johann and I can't argue about religion. He carries his around inside him and can't point to what he means—as I carry mine. We can't even be sure that we disagree. Our notions about religion may be identical, but we can't talk about it *meaningfully*—so we keep quiet."

Johann smiled with untroubled good nature, but said nothing. Carvala looked up from her fancy-work and said sharply, "Is this a development center lecture?"

"Sorry, Carvala. We agree on the method of symbol communication—the symbol is *not* the referent, the map is *not* the territory, the speech-sound is *not* the physical process. We go further and admit that the symbol *never* abstracts all of the details of the process it refers to. And we concede that symbols can be used to manipulate symbols—dangerously but usefully. And we agree that symbols should be structurally as similar as possible to the referents for communication purposes. To that extent epistemology is settled; but the key problem of epistemology—*how* we know *what* we know and what that knowledge means—we have settled by agreeing to ignore—like Johann and myself in re theology."

"Do you seriously propose that we investigate it?"

"I do. It's a key problem in the general problem of the personality. There is a strong interconnec-

tion between it and the object of Mordan's proposal. Consider—if a man 'lives' after his body is dead or before that body was conceived, *then a man is something more than his genes and his subsequent environment*. The doctrine of no-personal-responsibility for personal acts has become popular through the contrary assumption. I won't go into the implications—they must be evident to all of you—in ethics, in politics, in every field. But note the parallel between map-territory and gene-chart-and-man. These basic problems are all inter-related and the solution to any of them might be the key to all the others."

"You did not mention the possibility of direct communication without symbols."

"I implied it. That is one of the things we agreed to forget when we accepted the semantic negative-statements as the final word on epistemology. But it ought to be looked into again. There is *something* to telepathy, even if we can't measure it and manipulate it. Any man who has ever been happily married knows that, even if he's afraid to talk about it. Infants and animals and primitives have *some* use of it. Maybe we've been too smart. But the question ought to be reopened."

"Speaking of philosophical questions in general," put in the member from New Bolivar, "we have already agreed to subsidize one. Dr. Thorgsen's project—the ballistic stellarium—eidour-naian, I should call it. The origin and destination of the universe is certainly a classic problem of metaphysics."

"You are right," confirmed the Speaker. "If we follow Richard's proposal, Dr. Thorgsen's project should be included under it."

"I suggest that we did not allot Dr. Thorgsen sufficient credit."

"The subsidy could be increased, but he has not spent much of it. He seems to have little talent for spending money."

"Perhaps he needs abler assistants. There is Hargrave Caleb, and, of course, Monroe-Alpha Clifford. Monroe-Alpha is wasted in the department of finance."

"Thorgsen knows Monroe-Alpha. Perhaps Monroe-Alpha doesn't want to work on it."

"Nonsense! Any man likes a job that stretches his muscles."

"Then perhaps Thorgsen hesitated to ask him to help. Thorgsen is an essentially modest man, and so is Monroe-Alpha."

"That seems more likely."

"In any case," the Speaker finished, "such details are for the instigator to consider, not the whole Board. Are you ready for opinion? The question is Brother Richard's proposal in the broadest sense—I suggest that we postpone elaboration of the details of projects and methods until tomorrow

and other morrows In the meantime—does any member oppose?"

There was no opposition; there was full consent.

"So be it," said the Speaker. He smiled. "It seems we are about to attempt to walk where Socrates stumbled. It will take some doing!"

"Crawl, not 'walk,'" Johann corrected. "We have limited ourselves to the experimental methods of science."

"True, true. Well, 'he who crawls cannot stumble.' Now to other matters—we still have a State to govern!"

XI.

"How would you like," Felix asked Phyllis, "to have a half-interest in a gladiator?"

"What in the world are you talking about?"

"This undertaking of Smith Darlington's—football. We are going to incorporate each employee's contract and sell it. Our agent thinks it will be a good investment and, truthfully, I think he's right."

"Football," repeated Phyllis meditatively. "You did say something about it, but I never understood it."

"It's a silly business, at best. Twenty-two men get out on a large open place and battle with their bare hands."

"Why?"

"The excuse is to move a little plastic spheroid from one end of the place to the other."

"What difference does it make which end it's on?"

"None, really—but it's as reasonable as any other game."

"I don't get it," Phyllis decided. "Why should anyone fight unless he wants to kill someone?"

"You have to see it to understand it. It's exciting. I even found myself shouting."

"You!"

"Uh-huh. Me. Old calm-as-a-cat Felix. It's going to take hold, I tell you. It's going to be popular. We'll sell permissions to view it physically and then all sorts of lesser rights—direct pickup, and recording, and so forth. Smith has a lot of ideas about identifying the various combinations with cities and organizations and attaching color symbols to them and songs and things. He's full of ideas—an amazing young man, for a barbarian."

"He must be."

"Better let me buy you a piece of it. It's a pure spec proposition and you can get in cheap—now. It'll make you rich."

"What use have I for any more money?"

"I don't know. You might spend it on me."

"That's pretty silly. You're bloated with credit now."

"Well, that brings me around to another subject. When we're married you can really put your mind on helping me spend it."

"Are you on that subject again?"

"Why not? Times have changed. There is no obstacle any more. I've come around to Mordan's way of thinking."

"So Mordan told me."

"He did? Egg's Name—everything goes on behind my back! Never mind. When do we stat the contract?"

"What makes you think we are going to?"

"Huh? Wait a minute—I thought that all that stood between us was a difference of opinion about children?"

"You thought too much. What I said was that I would never marry a man who didn't want children."

"But I understood you to say—" He got up and moved nervously around the room. "Say, Phil—don't you *like* me?"

"You're nice enough—in your own horrid way."

"Then what's the trouble?"

She did not answer.

Presently he said, "I don't know whether it makes any difference since you feel that way about it, but I love you—you know that, don't you?"

"Come here." He came to where she was sitting. She took him by the ears and pulled his head down.

"Filthy, you big dope—you should have said that ten minutes ago." She kissed him.

Sometime later she said dreamily, "Filthy—"

"Yes, darling?"

"After we have Theobald we'll have a little girl, and then another little boy, and then maybe another girl."

"Um—"

"Um-m-m—"

She sat up. "What's the matter? Aren't you pleased at the prospect?" She looked at him closely.

"Sure, sure."

"Then why are you looking so glum?"

"I was thinking about Cliff. The poor lunk."

"Hasn't he found any trace of her yet?"

"Nary a trace."

"Oh, dear!" She put her arms around him and held him.

No sign of her in the Giant Forest, though he had cut the air back to the place. No woman had registered there with the given name of Marion. No one could he find who could identify her by his description. No ship had checked in there registered to such a person. Nor did the owners of the ships that had been there know such a person—several of them knew Marions, but not *the* Marion—although three of them had responded to the description closely enough to send him charging across country, with wildly beating heart, on errands which cruelly disappointed him.

There remained Johnson-Smith Estaire, at



whose town house he had first seen her. He had consulted her at once, after his initial failure to find Marion still at the Park. No, she didn't recall such a person. "After all, my dear Master Monroe-Alpha, the place was simply mobbed."

Did she keep a guest list? Yes, of course; what kind of a hostess did he think she was? Could he see it? She sent for her social secretary.

There was no Marion on the list.

He went back again. Could she have been mistaken? No, there was no mistake. But people sometimes brought others along to such a party as that—had he thought of that? In that case the hostess would have no record of it. Did she recall any such? No, she couldn't—it was too much to ask. Would it be too much to ask to copy the guest list? Not at all—anything to oblige.

But first he must listen to her. "It's becoming simply impossible to get servants at any reasonable wage." Couldn't he do something about it. "Dear Master Monroe-Alpha." In what way? He was the man who handled the dividend, wasn't he? That was the trouble—with the dividend so high they simply would not enter service unless you simply bribed them, my dear.

He tried to explain to her that he had no control over the dividend, that he was simply the mathematical go-between for the facts of economics and the Policy Board. He could see that she did not believe him.

He decided not to tell her, since he wanted a favor from her, that he himself would not choose to work as a personal servant for another unless driven to it by hunger. He tried to suggest that she make use of the excellent automaton furniture manufactured by her husband, supplemented by the help of the service companies. But she would have none of it. "So common, my dear. I tell you *nothing* replaces a well-trained servant. I should think people of that sort would take pride in such a profession. I'm sure I would if I were called to such a station in life."

Monroe-Alpha wondered where she had picked up such ideas, but he held his peace, and made sympathetic noises. Presently he got the list.

Impatiently, but with aching care, he plodded through the list. Some of the addresses were outside the Capital, some as far away as South America—Johnson-Smith Estaire was a fashionable hostess. Those he could not question himself, not fast enough to satisfy the lump of misery inside him. He must hire agents to track them down. He did so; it took all the credit he had—personal service comes high!—he borrowed against his salary to make up the deficit.

Two of the guests had died in the meantime. He set more agents to work, investigating tactfully their backgrounds and acquaintances, trying, trying to locate a woman named Marion. He dare

not even leave these two deceased to the last, for fear the trail might grow cold.

The others, those living in the Capital, he investigated himself. No, we took no one with us to that party—certainly no one named Marion. Estaire's party?—let me see, she gives so many. Oh, that one—no, I'm sorry. Now let me think—do you mean Selby Marion? No, Selby Marion is a little tiny woman with bright-red hair. Sorry, my dear fellow—care for a drink? No? What's the hurry?

Yes, surely. My cousin, Faircoat Marion. There's a stereo of her over there, on the organ. Not the one you're looking for? Well, signal me and tell me how you made out. Always glad to do a favor for a friend of Estaire's. Fine woman, Estaire—always lots of fun at her place.

We *did* take someone to that party—who was it, dear? Oh, yes, Reynolds Hans. He had some strange girl with him. No, I can't remember her name—do you, dear? Me, I just call them all Lollipop, if they're under thirty. But here's Reynolds' address; you might ask him.

Master Reynolds did not consider it an intrusion, no. Yes, he recalled the occasion—jolly brawl. Yes, he had escorted his cousin from Sanfrisco. Why, yes, her name was Marion—Hartnett Marion. How had he known her name?

Say, that's interesting—done something like that himself once. Thought he'd lost track of the girl, only she turned up the following week at another party. Married, though, and in love with her husband—fortunately.

No, he didn't mean that Marion was married, but this other girl—kid named Francine. Did he have a picture of his cousin? Well, now, let me see, he didn't think so. Wait now, he might have a flat pic, taken when they were kids, in a scrapbook somewhere. Where would that be? He was going to clean out this flat some day and throw away a lot of this junk—never could find anything when he wanted it.

Here it is—that's Marion, in the front row, second from the left. Was that the girl?

It was she! It was *she*!

How fast can a skyracer be pushed? How many corners can a man cut without being patrolled? Go—go—go!

He paused for a moment and tried to still his racing heart, before signaling at the door. The scanner investigated him and the door dilated.

He found her alone.

He stopped when he saw her, unable to move, unable to speak, face white.

"Come in," she said.

"You . . . you'll receive me?"

"Of course. I've been waiting."

He searched her eyes. They were warm and

tender still, albeit troubled. "I don't understand. I tried to burn you."

"You didn't mean to. You didn't want to."

"I— But— Oh, Marion, Marion!" He stumbled forward toward her, and half fell. His head was in her lap. He shook with the racking sobs of one who had not learned how to cry.

She patted his shoulder. "My dear. My dear."

He looked up at last and found that her face was wet, even though he had heard no sound of tears. "I love you," he said. He said it tragically, as if it were an irreparable harm.

"I know. I love you."

Much later, she said to him, "Come with me."

He followed her on out into another room, where she busied herself at her wardrobe. "What are you doing?"

"I've a few things to take care of first."

"First?"

"This time I'm coming with you."

On the flight back he used the phrase "—after we're married." She looked at him a little strangely.

"You intend to marry me?"

"Of course. If you'll have me."

"You would marry a control natural?"

"Why not?" He met the issue bravely, even casually.

Why not? Well, Roman citizens, proud of their patrician Latin blood, could have told him. The white aristocracy of the Old South could have, in their little day, explained to him in detail why not. "Aryan" race-myth apologists could have defined the reasons. Of course, in each case the persons giving the reasons would have had a different "race" in mind in explaining the obscene horror he contemplated committing, but their reasons would have been the same. Even Johnson-Smith Estaire could have explained to him "Why not"—and she would most certainly cut him off her list for stooping to such an alliance.

After all, kings and emperors have lost their thrones for lesser miscegenations.

"That was all I wanted to know," she said. "Come here, Clifford."

He came, a little mystified. She raised her left arm; he read the little figures tattooed there. The registration number was—no matter. But the classification letter was neither the "B" of a basic type, such as he bore, nor the CN of a control natural. It was X—experimental.

She told him about it a little later. Her hyperdexter great grandparents had both been control naturals. "Of course it shows a little," she said. "I *do* catch colds—if I don't take my pills. And sometimes I forget. I'm a sloppy person, Clifford."

A child of those two ancestors, her hyperdexter grandfather, had been identified, rather late in life, as a mutation, probably favorable—almost cer-

tainly favorable. His mutation was no gross matter, easily recognized, but was subtle and subliminal. It had to do with emotional stability. Perhaps it would be easiest to say that he was more civilized than any man can be expected to be.

Naturally, an attempt was made to conserve the mutation. She was one of the conservators.

XII.

Phyllis squealed at him as he got home. "Felix!"

He chucked the file case he had been carrying aside and kissed her. "What's the trouble, Flut-terbrain?"

"This. Look. Read it." "It" was a stat of a handwritten message. He read aloud:

"Espartero Carvala presents her compliments to Madame Longcourt Phyllis and prays permission to call on the morrow at half after sixteen hundred." Hm-m-m. You're shooting high, darling."

"But whatever am I to do?"

"Do? Why, you put out your hand, say 'How do you fare?' and then serve her something—tea, I suppose, though they say she drinks like a fish."

"Filthy!"

"What's the matter?"

"Don't joke with me. What am I to do? I can't entertain her. She's a Policy Maker—I wouldn't know what to say to her."

"Suppose she is on the Policy Board. She's human, ain't she? Our home is all right, isn't it? Go down and buy yourself a new gown—then you'll feel fit for anything."

Instead of brightening up, she began to cry. He took her in his arms and said, "There, there! What's the trouble? Did I say something wrong?"

She stopped and dabbed at her eyes. "No. Just nerves, I guess. I'm all right."

"You startled me. You never did anything like that before."

"No. But I never had a baby before, either."

"Yeah, that's right. Well, cry, if it makes you feel better. But don't let this old fossil get under your skin, kid. You don't have to receive her, you know. I'll call her and tell her you aren't going to."

She seemed quite recovered from her unease. "No, don't do that. I'd really like to see her. I'm curious and I'm flattered."

They had discussed with each other the question as to whether Madame Espartero Carvala had intended to call on both of them, or Phyllis only. Felix was reluctant to be present if his presence was not expected; he was equally reluctant to fail to show proper urbanity by not being present to receive a distinguished visitor. As he pointed out to Phyllis, it was his home as well as hers.

He telephoned Mordan, since he knew that Mor-

dan was much closer to such mighty and remote people than himself. Mordan gave him no help. "She's a rule unto herself, Felix. She's quite capable of breaking every custom of polite conduct, if she chooses."

"Any idea why she's coming?"

"Not the slightest. Sorry." Mordan himself wondered, but was honest enough with himself to admit that his guesses were unsound—no data; he simply did not understand the old girl, and knew it.

Madame Espartero Carvala settled the matter herself. She came stumping in, supporting herself with a heavy cane. Clutched in her left hand was a lighted cigar. Hamilton approached her, bowed. "Madame—" he began.

She peeted at him. "You're Hamilton Felix. Where's your wife?"

"If madame will come with me." He attempted to offer her his arm for support.

"I can manage," she said rather ungraciously. Nevertheless she clamped the cigar in her teeth and took his arm. He was amazed to find how little she weighed, judging by the pressure on his arm—but the grip of her fingers was firm. Once in the lounging room, in the presence of Phyllis, she said, "Come here, child. Let me look at you."

Hamilton stood by foolishly, not knowing whether to seat himself or leave. The old lady turned, noticing that he was still there, and said, "You are very gracious to escort me in to your wife. I thank you." The formal politeness of the words were oddly at variance with her first, brittle remarks, but they were not delivered in warm tones. Felix realized that he had been clearly and unmistakably dismissed. He got out.

He went to his retiring room, selected a scroll-script, fitted it into the reader, and prepared to kill time until Carvala should leave. But he found himself unable to fix his attention on the story he selected. He found that he had used the rewind button three times and still had no notion of how the story started.

Damn! he thought—I might as well have gone to the office.

For he had an office—now. The thought made him smile a little. He was the man who was never going to be tied down, who had split his profits with a man-of-affairs rather than be troubled with business worries. Yet here he was, married, an expectant father, actually living at the same address as his wife, and—possessing an office! True, the office had nothing to do with his business affairs.

He found himself actually engaged in the Great Research which Mordan had promised. Carruthers Alfred, former member of the Policy Board until he had retired to pursue his studies, had been co-opted as instigator for the enlarged project. He

in turn had co-opted Hamilton. He had protested to Carruthers that he was no synthesist, nor scientist. Nevertheless Carruthers wanted him. "You have an erratic and unorthodox imagination," he had said. "This job calls for imagination, the more heterodox the better. You needn't do routine research if you don't want to—plenty of patient technicians for that."

Felix suspected that Mordan had had something to do with his selection, but did not press him about it. Mordan, Hamilton knew, had an over-rated opinion of his ability. Hamilton esteemed himself as a second-rater, a competent and high-powered man, but a second-rater none the less. That chart that Mordan talked about—you could not compress a man into a diagram and hang him on a wall. He was not that chart. And didn't he know more about himself, from sitting on the inside, than any genetic technician could learn by peering down the double barrel of a 'scope?

But he had to admit he was glad that he had been invited into the project—it interested him. He had realized quite early that the enlarged project had not been taken up just to circumvent his balkiness—the transcript of authorization had shown him that. But he did not feel cheated—Mordan had delivered everything that he had promised, and Felix had become interested in the project for its own sake—both projects. Both the great public project of the Great Research and the private matter of himself, Phyllis, and their child to come.

He wondered what the little tike would be like.

Mordan seemed confident that he knew. He had shown them the diploid chromosome chart resulting from their carefully chosen gametes and had expounded on just how the characteristics of the two parents would be combined in the child. Felix was not so sure; in spite of his own reasonably thorough knowledge of genetic theory and technique he simply was not convinced that all of a human being's multifold complexity could be wrapped up in a little blob of protoplasm smaller than a pin point. It was not *reasonable*. There had to be something more to a man than that.

Mordan had seemed to find it highly desirable that he and Phyllis possessed so many Mendelian characteristics in common. It not only, he pointed out, made the task of selection of gametes much simpler and shorter, but also insured reinforcement of those characteristics, genetically. Paired genes would be similar, instead of opposed.

On the other hand, Hamilton found that Mordan looked with favor on the alliance of Monroe-Alpha and Hartnett Marion, although they were obviously as dissimilar as two persons could well be. Hamilton pointed out the inconsistency in reasoning. Mordan had been unperturbed.

"Each genetic case is a discreet individual. No

rule in genetics is invariable. They complement each other."

It was certainly obvious that Marion had made Cliff happy, happier than Felix had ever seen him.

The big dope.

He had long been of the opinion that what Cliff needed was a keeper, someone to lead him around on a string, fetch him indoors when it rained, and tickle him when he pouted. (Not that the opinion subtracted from his very real devotion to his friend.)

Marion seemed to qualify on all counts. She hardly let him out of her sight.

She worked with him, under the euphemistic title of "special secretary."

"Special secretary?" Hamilton had said, when Monroe-Alpha told him about it. "What does she do? Is she a mathematician?"

"Not at all. She doesn't know a thing about mathematics—but she thinks I'm wonderful!" He grinned boyishly—Hamilton was startled to see how it changed his face. "Who am I to contradict her?"

"Cliff, if you keep that up, you'll have a sense of humor yet."

"She thinks I have one now."

"Perhaps you have. I knew a man who raised wart hogs once. He said they made the flowers more beautiful."

"Why did he think that?" Monroe-Alpha was puzzled and interested.

"Never mind. Just what is it that Marion does?"

"Oh, a lot of little things. Keeps track of things I'd forget, brings me a cup of tea in the afternoon. Mostly she's just here when I want her. When a concept won't come straight and my head feels tired, I can look up and there's Marion, just sitting there, looking at me. Maybe she's been reading, but when I look up I don't have to say anything—she's looking back at me. I tell you it helps. I never get tired any more." He smiled again.

Hamilton realized with sudden insight that there never had been anything wrong with Monroe-Alpha except that the poor boob had never been happy. He had had no defenses against the world—until now. Marion had enough for both of them.

He had wanted to ask Cliff what Hazel thought of the new arrangements, but hesitated to do so, despite their close friendship. Monroe-Alpha brought it up himself. "You know, Felix, I was a little worried about Hazel."

"So?"

"Yes. I know she had said she wanted to enter a divorce, but I hadn't quite believed her."

"Why not?" Felix had inquired blandly.

Monroe-Alpha had colored. "Now, Felix, you're just trying to get me mixed up. Anyhow, she seemed positively relieved when I told her about Marion and me. She wants to take up dancing again."

Felix thought with regret that it was a mistake for an artist, once retired, to attempt a comeback. But Cliff's next words made him realize he had been hasty. "It was Thorgsen's idea—"

"Thorgsen? Your boss?"

"Yes. He had been telling her about the outstations, particularly the ones on Pluto, of course, but he mentioned Mars and the rest, I suppose. They don't get much recreation, other than canned shows and reading." Hamilton knew what he meant, although he had never thought much about it. With the exception of the tourist cities on Luna there was nothing to attract human beings to the other planets, save for exploration and research. The devoted few who put up with the unearthly hardships necessarily lived a monklike existence. Luna was a special case, naturally; being practically in Earth's front yard and an easy jump, it was as popular for romantic holidays as South-pole had once been.

"She got the idea, or Thorgsen suggested it to her, of getting together a diversified traveling troupe to play a circuit of all the outposts."

"It doesn't sound commercial."

"It doesn't have to be. Thorgsen took the matter up for subsidy. He argued that, if research and exploration were necessary, then morale of the personnel involved was a government matter, in spite of the long-standing policy against government participation in the entertainment business, luxury business, or fine arts."

Hamilton whistled. "Nice going! Why, that principle was almost as rock solid as civil rights."

"Yes, but it was not a matter of constitution. And the Planners are no fools. They don't necessarily follow precedent. Look at this job we're on."

"Yes, surely. Matter of fact, that was what I dropped in to see you about. I wanted to see how you were getting along."

At the time of this conversation Hamilton was feeling his way into the whole picture of the Great Research. Carruthers had given him no fixed instructions, but had told him to spend a few weeks sizing up the problem.

The phase of the research occupying Monroe-Alpha's attention—Thorgsen's project, the Grand Eidouranium—was much further advanced than any other aspect of the whole project, since it had been conceived originally as a separate matter before the Great Research, which included it, had been thought of. Monroe-Alpha had come into it rather late, but Hamilton had assumed subconsciously that his friend would be the dominant figure in it. This, Monroe-Alpha maintained, was not true.

"Hargrave is much more fitted for this sort of work than I am. I take my directions from him—myself, and about sixty others."

"How come? I thought you were tops in the numbers racket."

"I have my specialty and Hargrave knows how to make the best use of it. You apparently have no idea of how diversified and specialized mathematics is, Felix. I remember a congress I attended last year—more than a thousand present, but there weren't more than a dozen men there I could really talk to, or understand."

"Hm-m-m. What does Thorgsen do?"

"Well, naturally, he isn't of much use in *design*—he's an astrophysicist, or, more properly, a cosmic metrician. But he keeps in touch and his suggestions are always practical."

"I see. Well—got everything you want?"

"Yes," admitted Monroe-Alpha, "unless you should happen to have concealed, somewhere about your person, a hypersphere, a hypersurface, and some four-dimensional liquid, suitable for fine lubrication."

"Thanks. You can hand me back my leg now. I see I've been wrong again—you are acquiring a sense of humor."

"I am quite serious about it," Cliff answered without cracking a smile, "even though I haven't the slightest idea where I could find such nor how I could manipulate it if I did."

"For *why*? Give."

"I would like to set up a four-dimensional integrator to integrate from the solid surface of a four-dimensional cam. It would greatly shorten our work if we could do such a thing. The irony of it is that I can describe the thing I want to build, in mathematical symbology, quite nicely. It would do work, which we now have to do with ordinary ball-and-plane integrators and ordinary three-dimensional cams, in one operation whereas the system we use calls for an endless series of operations. It's a little maddening—the theory is so neat and the results are so unsatisfactory."

"I grieve for you," Hamilton had answered, "but you had better take it up with Hargrave."

He had left soon after that. It was evident that those human calculating machines needed nothing from him, and that they knew what they were doing. The project was important, damned important he thought it was—to investigate what the Universe had been and what it would become. But it was certainly a long-distance matter and he himself would never live to see the end of it. Cliff had told him with a perfectly straight face that they hoped to check their preliminary calculations in a matter of three or three and a half centuries. After that they could hope to build a really worthwhile machine which might tell them things they did not already know.

So he dismissed the matter. He admired the sort of intellectual detachment which would permit men to work on such a scale, but it was not his horse.

The Great Research in its opening phases seemed to fall into half a dozen major projects, some of which interested him more than others because they gave some hope of producing results during his lifetime. Some, however, were almost as colossal as the building of the Grand Eidouranium. The distribution of life through the physical universe, for example, and the possibility that other, nonhuman intelligences existed somewhere. If there were such, then it was possible, with an extremely high degree of mathematical probability, that some of them, at least, were more advanced than men.

In which case they might give Man a "leg up" in his philosophical education. They might have discovered "Why" as well as "How."

It had been pointed out that it might be extremely dangerous, psychologically, for human beings to encounter such superior creatures. There had been the tragic case of the Australian Aborigines in not too remote historical times—demoralized and finally exterminated by their own sense of inferiority in the presence of the colonizing English.

The investigators serenely accepted the danger; they were not so constituted as to be able to do otherwise.

Hamilton was not sure it was a danger. To some it might be, but he himself could not conceive of a man such as Mordan, for example, losing his morale under any circumstances. In any case it was a long-distance project. First they must reach the stars, which required inventing and building a starship. That would take a bit of doing. The great ships which plied the lonely reaches between the planets were simply not up to it, any more than a groundcar could fly. Some new drive must be found, if the trips were not to take generations for each leg.

Some application of nuclear-fission power perhaps—so cheap and immense, but still so hard to handle. Or perhaps the hydrogen-helium degeneration, the "Solar Phoenix," which seemed to be the inner source of power of all the stars—nuclear power, too, but not one used in terrestrial power plants.

That they would find life elsewhere in the Universe he was quite sure, although millennia of exploration might intervene. After all, he considered, the Universe was roomy! It had taken Europeans four centuries to spread throughout the two continents of the "New World"—what about a galaxy!

But Life they would find. It was not only an inner conviction; it was just short of scientific fact, for it was a tight inference of one stage only from established fact. Arrhenius the Great had set forth the brilliant speculation, sometime around the beginning of the twentieth century, that life-potent spores might be carried from

planet to planet, from star to star, pushed along by light pressure. The optimum size for motes to be carried along by light pressure happens to be on the same order as the sizes of bacilli. And bacilli spores are practically unkillable—heat, cold, radiation, time—they sleep through it until lodged in a favorable environment.

Arrhenius calculated that spores could drift to Alpha Centauri in around nine thousand years—a mere cosmic blink of the eye.

If Arrhenius were right, then the Universe was populated, not just Earth. It mattered not whether life had originated first on Earth, first elsewhere, or in many different neighborhoods, once started it had to spread. Millions of years before space-ships it had spread—if Arrhenius were right. For spores alone, lodging and multiplying, would infect an entire planet with whatever forms of life were suited to that planet. Protoplasm is protean; any simple protoplasm can become any complex form of life under mutation and selection.

Arrhenius had been spectacularly vindicated, in part, in the early days of interplanetary exploration. Life had been found on all the planets, save Mercury and Pluto; even on Pluto there were signs of feeble, primitive life in the past. Furthermore, protoplasm seemed to be much the same wherever found—incredibly varied but presumably related. It was disappointing not to have found recognizable intelligence in the Solar System—it would have been nice to have had neighbors! (The poor degenerate starveling descendants of the once-mighty Builders of Mars can hardly be described as intelligent—except in charity. A half-witted dog could cheat them at cards.)

But the most startling and satisfying vindication of Arrhenius lay in the fact that *spores* had been trapped out in space itself, in the supposedly sterile raw vacuum of space!

Hamilton admitted that he did not expect the search for other living intelligences to bear fruit during his tenure on Terra, unless they got a hump on themselves in dreaming up that starship and then hit the jackpot on the first or second try. And again it was not his forte—he might cook up a few gadgets for them as auxiliary mechanicals in making the ship more livable, but for the key problem, motive power, he was about twenty years too late in specializing. No, keep in touch, kibitz a little, and report to Carruthers—that was all he could do.

But there were still several other research possibilities already under way, things that had to do with human beings, with men, in their more esoteric and little-studied aspects. Things that nobody knew anything about anyhow and which he could, therefore, tackle on an equal footing with others, catch-as-catch-can, and no holds barred. Where does a man go after he's dead? And, con-

versely, where does he come from? He made a mental note of that latter—it suddenly occurred to him that most of the attention had been given to the first half of the paired question. What is telepathy and how do you make it tick? How is it that a man can live another life in his dreams? There were dozens more, all questions science had refused to tackle because they were too slippery—had in fact walked away from them like a disgruntled cat. All of them related to some troublesome characteristic of the human personality—whatever that was—and any of them might lead to an answer as to *purpose—meaning*.

He felt toward these questions the free and easy attitude of the man who was asked if he could pilot a rocket: "I don't know—I've never tried."

Well, he would try. And he would help Carruthers see to it that many others tried, strongly, consistently, following out every approach that could be thought of, and keeping meticulous, full, scientific records. They would track down the

Ego, trap it, and put a band on its leg.

What was an ego? He didn't know, but he knew he was one. By which he did not mean his body, nor, by damn, his genes. He could localize it—on the center line, forward of his ears, back of his eyes, and about four centimeters down from the top of the skull—no, more like six. That was where he *himself* lived—when he was home. He would bet on it, to the nearest centimeter. He *knew* closer than that, but he couldn't get in and measure it.

Of course, he wasn't home all the time.

Hamilton could not figure out just why Carruthers wanted him, but then, he had not been present at an exchange between Mordan and Carruthers. "How is my problem child getting along?" Mordan had inquired.

"Quite well, Claude. Quite well indeed."

"What are you using him for?"

"Well—" Carruthers pursed his lips. "I'm using him as a philosopher, only he does not know it."

Mordan chuckled. "Better not let him know. I think he might be offended to be called a philosopher."

"I shan't. Really, he's quite useful to me. You know how impossible most specialists are, and how pedantic most of our brother synthesists."

"Tut, tut. Such heresy."

"Isn't it, though? But Felix is useful to me. He has an active, uninhibited mind. His mind *prowls*."

"I told you he was a star line."

"Yes, you did. Every now and then you genetics laddies come out with the right answer."

"May your bed spring a leak," Mordan answered.

"We can't always be wrong in view of the numbers we deal with. The Great Egg must love human beings, he made a lot of them."

"Same argument applies to oysters, only more so."

"That's different," said Mordan. "I'm the one who loves oysters. Have you had dinner?"

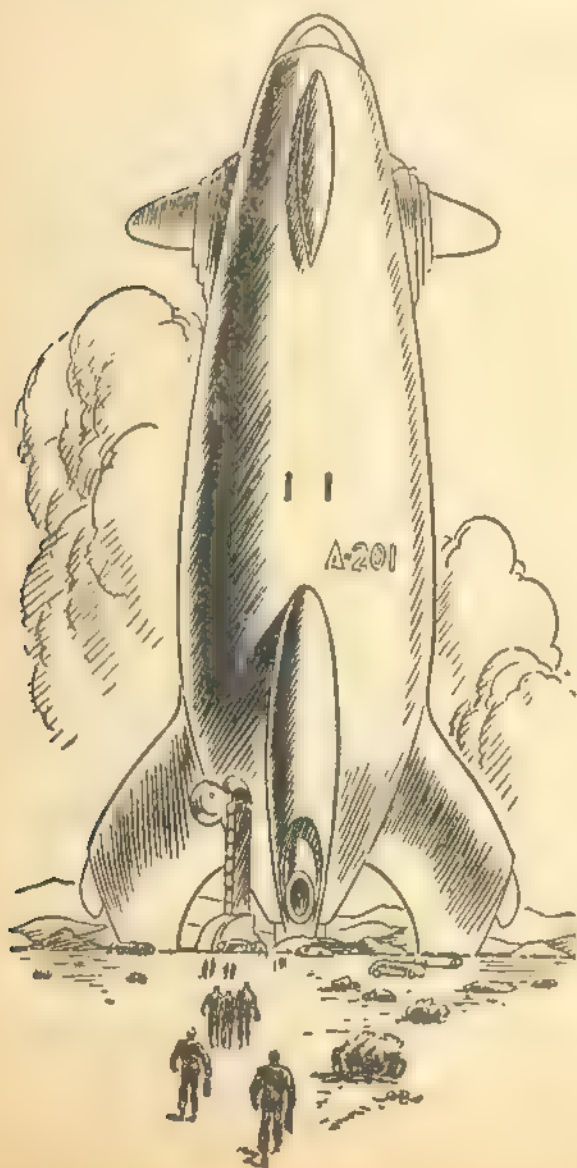
Felix sat up with a start. The house phone at his elbow was chiming. He flipped the come-along tab and heard Phyllis' voice. "Felix, my dear, will you come in and say good-by to Madame Espartero?"

"Coming, dear."

He returned to the lounge, feeling vaguely unsettled. He had forgotten the presence in their home of the ancient Planner.

"Madame, will you graciously permit—"

"Come here, lad!" she said sharply. "I want to see you in the light." He came forward and stood before her, feeling somewhat as he always had as a child when the development center therapists checked over his growth and physical development. Damnation, he thought, she looks at me as



if I were a horse and she a buyer.

She stood up suddenly and grasped her stick. "You'll do," she stated, as if the knowledge somehow annoyed her. She extracted a fresh cigar from somewhere about her person, turned to Phyllis, and said, "Good-by, child. And thank you." Whereupon she started for the door.

Felix had to hurry to catch up with her and let her out.

Felix returned to Phyllis, and said savagely, "A man that did that would be challenged."

"Why, Felix!"

"I detest," he stated, "these damned emphatic old women. I have never seen why politeness should be the obligation of the young and rudeness the privilege of age."

"Why, Felix, she's not like that at all. I think she's rather a dear."

"She doesn't act like it."

"Oh, she doesn't mean anything by that. I think she's just always in a hurry."

"Why should she be?"

"Wouldn't you be—at her age?"

He hadn't thought of it from that point of view. "Maybe you're right. Sands of time, and so forth. What did the two of you talk about?"

"Oh—lots of things. When I expected the baby and what we were going to name him and what plans we had for him and things."

"I'll bet she did most of the talking."

"No, I did most of the talking. Occasionally she put in a question."

"Do you know, Phyllis," he said soberly, "one of the things I like least about the whole business of you and me and *him* is the quivering interest that outsiders take in it. No more privacy than a guppy in an aquarium."

"I know what you mean, but I didn't feel that way with her. We talked women talk. It was nice."

"Hrumph!"

"Anyway, she didn't talk much about Theobald. I told her we intended to have a little sister for Theobald presently. She was very much interested. She wanted to know when, and what plans we had for *her*, and what we intended to name her. I hadn't thought about that. What do you think would be a nice name, Felix?"

"Egg knows—seems to me that's rushing matters a little. I hope you told her that it would be a long, long time."

"I did, but she seemed a little disappointed. But I want to be *myself* for a while, after Theobald comes. How do you like the name 'Justina'?"

"Seems all right," he answered. "What about it?"

"She suggested it."

"She did? Whose baby does she think it's going to be?"

XIII.

"Now, Felix, don't get yourself excited."

"But, Claude, she's been in there a long time!"

"Not very long."

"But— Claude, you biologist johnnies should have worked out something better than this."

"Such as?"

"How should I know? Ectogenesis, maybe."

"We could practice ectogenesis," Mordan answered imperturbably, if we wished. It has been done. But it would be a mistake."

"Egg's sake—why?"

"Contra-survival in nature. The race would be dependent on complex mechanical assistance to reproduce. The time might come when it wasn't available. Survivor types are types that survive in difficult times as well as easy times. An ectogenetic race couldn't cope with really hard, primitive conditions. But ectogenesis isn't new—it's been in use for millions of years."

"No, I suppose it— Huh? How long did you say?"

"Millions of years. What is egg-laying but ectogenesis? It's not efficient; it risks the infant zygotes too hazardously. The great auk and the dodo might still be alive today, if they had not been ectogenetic. No, Felix, we mammals have a better method."

"That's all right for you to say," Felix replied glumly. "It's not your wife that's concerned."

Mordan forbore to answer this. He went on, making conversation. "The same applies to any technique which makes life easier at the expense of hardiness. Ever hear of a bottle-baby, Felix? No, you would not have—it's an obsolete term. But it has to do with why the barbarians nearly died out after the Second Genetic War. They weren't all killed, you know—there are always survivors, no matter how fierce the war. But they were mostly bottle-babies, and the infant generation thinned out to almost nothing. Not enough bottles and not enough cows. Their mothers could not feed them."

Hamilton raised a hand irritably. Mordan's serene detachment—for such he assumed it to be—from the events at hand annoyed him.

"The deuce with that stuff. Got another cigarette?"

"You have one in your hand," Mordan pointed out.

"Eh? So I have!" Quite unconsciously he snuffed it out, and took another one from his own pouch. Mordan smiled and said nothing.

"What time is it?"

"Fifteen forty."

"Is that all? It must be later."

"Wouldn't you be less jumpy if you were inside?"

"Phyllis won't let me. You know how she is,

Claude—a whim of steel." He smiled, but there was no gaiety in it.

"You are both rather dynamic and positive."

"Oh, we get along. She lets me have my own way, and later I find out I've done just what she wanted me to do."

Mordan had no difficulty in repressing his smile. He was beginning to wonder at the delay himself. He told himself that his interest was detached, impersonal, scientific. But he had to go on telling himself.

The door dilated; an attendant showed herself. "You may come in now," she announced with brisk cheeriness.

Mordan was closer to the door; he started to go in first. Hamilton made a long arm, grabbed him by the shoulder. "Hey! What goes on here? Who's the father in this deal, anyhow?" He pushed himself into the lead. "You wait your turn."

She looked a little pale. "Hello, Felix."

"Hello, Phil." He bent over her. "You all right?"

"Of course I'm all right—this is what I'm for." She looked at him. "And get that silly smirk off your face. After all, you didn't *invent* fatherhood."

"You're sure you're all right?"

"I'm fine. But I must look a fright."

"You look beautiful."

A voice at his ear said, "Don't you want to see your son?"

"Eh? Oh—sure!" He turned and looked. Mordan straightened up and stood out of the way. The attendant held the baby up, half inviting him to hold it, but he kept his arms down and looked it over gingerly. It seemed to have the usual number of arms and legs, he thought, but that bright orange color—well, he didn't know. Maybe it was normal.

"Don't you approve of him?" Phyllis asked sharply.

"Huh? Sure, sure. It's a beautiful baby. He looks like you."

"Babies," said Phyllis, "don't look like anyone, except other babies."

"Oh, but he does!"

"Why, Master Hamilton," put in the attendant, "how you are sweating! Don't you feel well?" Transferring the baby with casual efficiency to her left arm, she picked up a pad and wiped his forehead. "Take it easy. Seventy years in this one location and we've never lost a father."

Hamilton started to tell her that the gag was ancient when the establishment was new, but he restrained himself. He felt a little inhibited, a rare thing for him. "We'll take the child out for a while," the attendant went on. "Don't stay long."

Mordan excused himself cheerily and left.

"Felix," she said thoughtfully, "I've been thinking about something."

"So?"

"We've got to move."

"Why? I thought you liked our place."

"I do. But I want a place in the country."

He looked suddenly apprehensive. "Now, darling, you know I'm not the bucolic type."

"You don't have to move if you don't want to. But Theobald and I are going to. I want him to be able to get himself dirty and have a dog and things like that."

"But why be so drastic? All development centers run to the air and sunshine and the good earth motif."

"I don't want him spending all his time in development centers. They're necessary, but they're no substitute for family life."

"I was raised in development centers."

"Take a look at yourself in the mirror."

The child grew in no particularly spectacular fashion. He crawled at a reasonable age, tried to stand, burned his fingers a few times, tried to swallow the usual quota of unswallowable objects.

Mordan seemed satisfied. So did Phyllis. Felix had no criteria.

At nine months Theobald attempted a few words, then shut up for a long time. At fourteen months he began speaking in sentences, short and of his own structure, but sentences. The subjects of his conversation, or, rather, his statements, were consistently egocentric. Normal again—no one expects an infant to write essays on the beauties of altruism.

"That," remarked Hamilton to Mordan one day, hooking a thumb toward where Theobald sat naked in the grass, trying to remove the ears from a nonco-operative and slightly indignant puppy, "is your superchild, is he not?"

"Mm, yes."

"When does he start doing his miracles?"

"He won't do miracles. He is not unique in any one respect; he is simply the best we can conceive in every respect. He is uniformly normal, in the best sense of the word—optimum, rather."

"Hm-m-m. Well, I'm glad he doesn't have tentacles growing out of his ears, or a bulging forehead, or something like that. Come here, son."

Theobald ignored him. He could be deaf when he chose; he seemed to find it particularly difficult to hear the word "No." Hamilton got up, went over and picked him up. He had no useful purpose in mind; he just wanted to cuddle the child for a while for his own amusement. Theobald resisted being separated from the pup for a moment, then accepted the change. He could soak up a great deal of petting—when it suited him. If

it really did not suit him, he could be extremely unco-operative.

Even to the extent of biting. He and his father had put in a difficult but instructive half hour in his fifteenth month settling the matter. Beyond cautioning Felix to be careful not to damage the brat, Phyllis had let them have it out. Theobald did not bite any more, but Felix had a permanent, small, ragged scar on his left thumb.

Hamilton was almost inordinately fond of the child, although he was belligerently offhand in his manner. It hurt him that the child did not really seem to care anything about him and would as readily accept petting and endearments from "Uncle Claude"—or a total stranger—if he happened to be in the mood to accept anything of the sort.

On Mordan's advice and by Phyllis' decision (Felix was not offered a vote in the matter—she was quite capable of reminding him that *she*, and not he, was a psychopediatrician) Theobald was not taught to read any earlier than the usual age of thirty months, although experimental testing showed that he could comprehend the basic idea of abstracted symbols a little earlier than that. She used the standard extensionalized technique of getting a child to comprehend symbolic grouping-by-abstracted-characteristics while emphasizing individual differences. Theobald was rather bored with the matter and appeared to make no progress at all for the first three weeks. Then he seemed suddenly to get the idea that there might be something in it for him—apparently by recognizing his own name on a stat which Felix had transmitted from his office. This point is not certain, but shortly thereafter he took the lead in his own instruction and displayed the concentrated interest he was capable of.

Nine weeks after the instruction began it was finished. Reading was an acquired art; further instruction would merely have gotten in his way. Phyllis let him be and restricted her efforts in the matter to seeing to it that only such reading matter was left in his reach as she wished him to attempt. Otherwise he would have read anything he could lay hands on; as it was she had to steal scrolls from him when she wanted him to exercise or eat.

Felix worried about the child's obsession with printed matter. Phyllis told him not to. "It will wear off. We've suddenly extended his psycho field; he's got to explore it for a while."

"It didn't wear off with me. I still read when I should be doing something else. It's a vice."

Theobald read stumbingly and with much subvocalization and was, of course, forced to call for help frequently when he ran on to symbols new to him and not sufficiently defined by context. A home is not as well equipped for extensional in-

struction as a development center. In a center no words appear in a primer which are not represented by examples which can be pointed to, or, if the words are action symbols, the actions are such that they can be performed there and then.

But Theobald was through with primers before he should have been and their home, although comfortably large, would have needed to be of museum size to accommodate samples in groups of every referent he inquired about. Phyllis' resourcefulness and histrionic ability were stretched to the limit, but she stuck to the cardinal principle of semantic pedagogy: Never define a new symbol in terms of symbols already known if it is possible to point to a referent instead.

The child's eidetic memory first became evident in connection with reading. He read rapidly, if badly, and remembered what he read. Not for him was the childish custom of cherishing and re-reading favorite books. A once-read scroll was to him an empty sack; he wanted another.

"What does 'infatuated' mean, mamma?" He made this inquiry in the presence of his father and Mordan.

"Hm-m-m," she began guardedly, "tell me what words you found it sitting with."

"It is not that I am merely infatuated with you, as that old goat Mordan seems to think—I don't understand that either. Is Uncle Claude a goat? He doesn't look like one."

"What," said Felix, "has that child been reading now?" Mordan said nothing, but he cocked a brow at Felix.

"I think I recognize it," Phyllis said in an aside to Felix. Then, turning back to the child, she added, "Where did you find it? Tell Phyllis."

No answer.

"Was it in Phyllis' desk?" She knew that it had been; there was secreted in there a bundle of stats, mementos of the days before she and Felix had worked out their differences. She had the habit of re-reading them privately and secretly. "Tell Phyllis."

"Yes."

"That's out of bounds, you know."

"You didn't see me," he stated triumphantly.

"No, that is true." She thought rapidly. She wished to encourage his truthfulness, but to place a deterrent on disobedience. To be sure, disobedience was more often a virtue than a sin, but—Oh, well! She tabled the matter.

Felix muttered, "That child seems to have no moral sense whatsoever."

"Have you?" she asked him, and turned back to Theobald.

"There was lots more, mamma. Want to hear it?"

"Not just now. Let's answer your two questions first."

"But, Phyllis," Felix interrupted.

"Wait, Felix. I've got to answer his questions."

"Suppose you and I step out into the garden for a smoke," Mordan suggested. "Phyllis is going to be fairly busy for a while."

Quite busy. "Infatuated" was, in itself, quite a hurdle, but how to explain to a child in his forty-second month the allegorical use of symbols? She was not entirely successful; Theobald referred to Mordan indiscriminately thereafter for a long time as "Uncle Claude" or "Old Goat."

Eidetic memory is a Mendelian recessive. Both Phyllis and Felix had the gene-group for it from one ancestor each; Theobald had it from both his parents, by selection. The potentiality, masked as recessive in each of his parents, was therefore effective in him. Both "recessive" and "dominant" are relative terms; dominants do not cancel recessives like symbols in an equation. Both Phyllis and Felix had excellent, unusual memories. Theobald's memory was well-nigh perfect.

Recessive Mendelian characteristics are usually undesirable ones. The reason is simple—dominant characteristics get picked over by natural selection every generation. (It should be emphasized again at this point that artificial selection of genes in no way puts a stop to natural selection. Natural selection—the dying out of the poorly equipped—goes on day in and day out, inexorable and automatic. It is as tireless, as inescapable, as entropy.) A really bad dominant will weed itself out of the race in a few generations. The worst dominants appear only as original mutations, since they either kill their bearers, or preclude reproduction. Embryo-cancer is such a one—complete sterility is another. But a recessive may be passed on from generation to generation, masked and not subjected to natural selection. In time a generation may arrive in which a child receives the recessive from both parents—up it pops, strong as ever. That is why the earlier geneticists found it so hard to eliminate such recessives as hemophilia and deaf-mutism; it was impossible, until the genes in question were charted by extremely difficult indirect and inferential means, to tell whether or not an adult, himself in perfect health, was actually "clean." He might pass on something grisly to his children. Nobody knew.

Felix demanded of Mordan why, in view of the bad reputation of recessives, eidetic memory should happen to be recessive rather than dominant.

"I'll answer that twice," said Mordan. "In the first place the specialists are still arguing as to why some things are recessives, and others dominants. In the second place, why call eidetic memory a desirable trait?"

"But—for Egg's sake! You selected for it for Baldy!"

"To be sure we did—for Theobald. 'Desirable' is a relative term. Desirable for *whom*? Complete

memory is an asset only if you have the mind to handle it; otherwise it's a curse. One used to find such cases occasionally, before your time and mine—poor simple souls who were bogged down in the complexities of their own experience; they knew every tree but could not find the forest. Besides that, forgetting is an anodyne and a blessing to most people. They don't need to remember much and they don't. It's different with Theobald."

They had been talking in Mordan's office. He took from his desk a file of memoranda, arranged systematically on perhaps a thousand small punched cards. "See this? I haven't looked it over yet—it's data the technicians supply me with. Its arrangement is quite as significant as its content—more so, perhaps." He took the file and dumped the cards out onto the floor. "The data is still all there, but what use is it now?" He pressed a stud on his desk; his new file secretary entered. "Albert, will you please have these fed into the sorter again? I'm afraid I've randomized them."

Albert looked surprised, but said, "Sure, chief," and took the piled cards away.

"Theobald has the brain power, to speak loosely, to arrange his data, to be able to find it when he wants it, and to use it. He will be able to see how what he knows is related in its various parts, and to abstract from the mass significantly related details. Eidetic memory is a desirable trait *in him*."

No doubt—but sometimes it did not seem so to Hamilton. As the child grew older he developed an annoying habit of correcting his elders about minutiae, in which he was always maddeningly accurate. "No, mother, it was not last Wednesday; it was last Thursday. I remember because that was the day that daddy took me walking up past the reservoir and we saw a pretty lady dressed in a green jumpsuit and daddy smiled at her and she stopped and asked me what my name was and I told her my name was Theobald and that daddy's name was Felix and that I was four years and one month old. And daddy laughed and she laughed and then daddy said—"

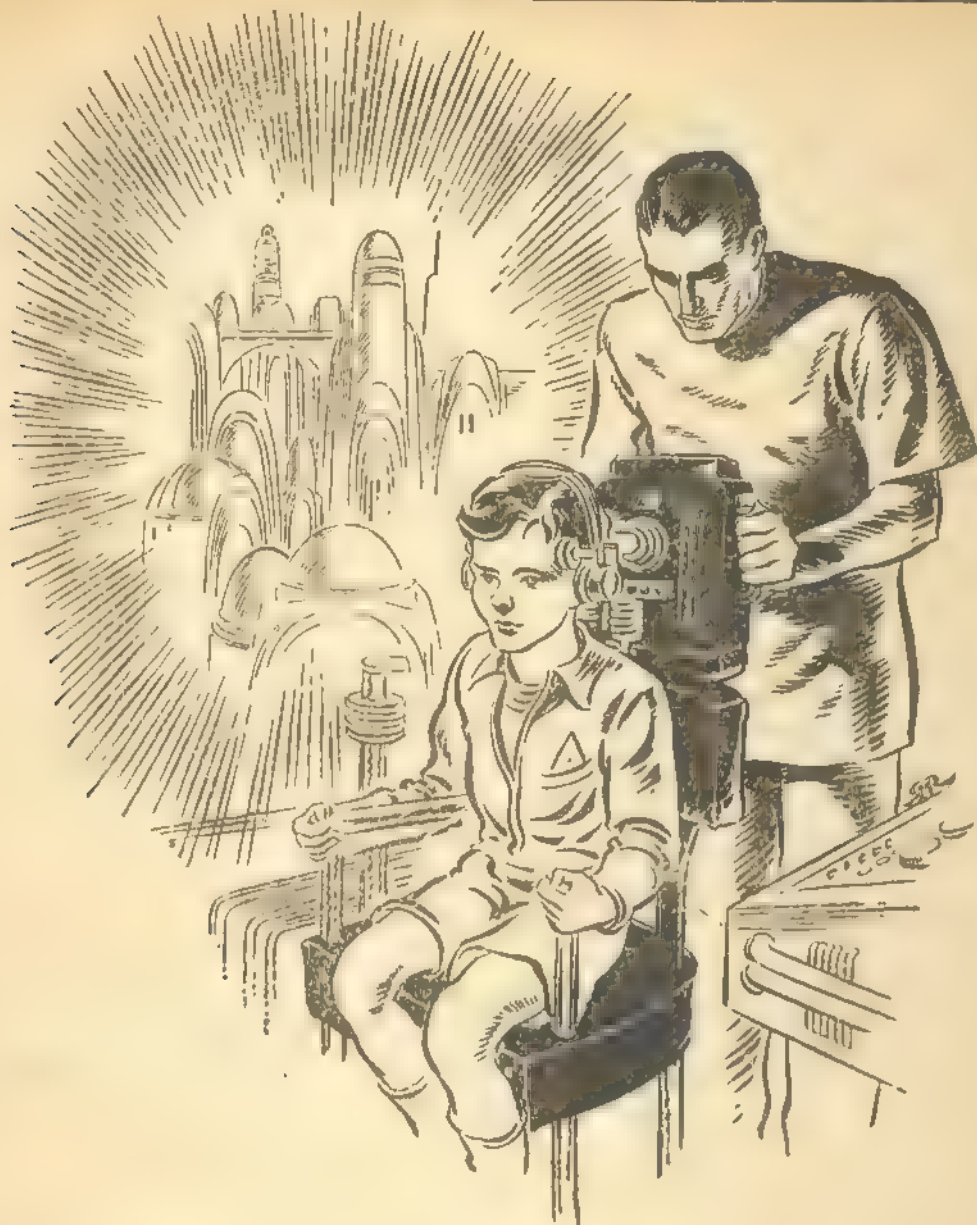
"That will do," said Felix. "You've made your point. It was Thursday. But it is not necessary to correct people on little things like that."

"But when they're wrong I have to tell them!"

Felix let it ride, but he reflected that Theobald might need to be inordinately fast with a gun when he was older.

Felix had developed a fondness for country life, little as he had wanted to undertake it. Had it not been for his continuous work on the Great Research he might have taken up horticulture seriously. There was something deeply satisfying, he found, in making a garden do what he wanted it to do.

He would have spent all his holidays fussing



with his plants, if Phyllis had concurred. But her holidays were less frequent than his, since she had resumed putting in one shift a day at the nearest primary development center as soon as Theobald was old enough to need the knocking around he would get from other children. When she did have a holiday she liked to go somewhere—a flying picnic, usually.

They had to live near the Capital, because of Felix's work, but the Pacific was only a little over five hundred kilometers west of them. It was convenient to pack a lunch, get to the beach in time for a swim and a nice, long, lazy bake, then eat.

Felix wanted to see the boy's reaction the first time he saw the ocean. "Well, son, this is it. What do you think of it?"

Theobald scowled out at the breakers. "It's all right," he gruded.

"What's the matter?"

"The water looks sick. And the sun ought to

be off *that* way, not here. And where's the big trees?"

"What big trees?"

"You know."

"I'm sorry; I don't."

"The high slim ones, with big bushes at the top."

"Hm-m-m—what's wrong with the water?"

"It ain't *blue*."

Hamilton walked back to where Phyllis sprawled on the sand. "Can you tell me," he said slowly, "whether or not Baldy has ever seen stereos of royal palms—on a beach, a tropical beach?"

"Not that I know of. Why?"

"Think back. Did you use such a picture to extensionalize for him?"

"No, I'm sure of that."

"You know what he's read—has he seen any flat-picture like that?"

She checked back through her own excellent and well-arranged memory. "No, I would have re-

membered it. I would never have put such a picture in his way without explaining it to him."

The incident occurred before Theobald had been entered at the development center; what he had seen, he had seen at home. Of course it was possible that he had seen it in a news or story cast in the receiver at home, but he could not start the machine himself and neither of them recalled such a scene. Nevertheless, it was funny, damned funny.

"What did you start to say, dear?"

Hamilton gave a slight start. "Nothing, nothing at all."

"What kind of 'nothing'?"

He shook his head. "Too fantastic. My mind was wandering."

He went back to the boy and attempted to pump him for details in an attempt to ferret out the mystery. But Theobald was not talking. In fact, he was not even listening. He said so.

On a similar occasion but much later an event occurred which was quite as disturbing, but a little more productive. Felix and the boy had been splashing in the surf, until they were quite tired. At least Felix was, which made a majority with only one dissent. They lay down on the sand and let the sun dry them. Presently the salt drying on the skin made them itch, as it has a habit of doing.

Felix scratched Theobald between the shoulder blades—that awkward spot—and reflected to himself how catlike the child was in many ways, even to the sybaritic way in which he accepted this small sensuous pleasure. Just now it suited him to be petted; a moment later he might be as naughty and distant as a Persian tom. Or, like the cat, he might decide to cuddle.

Then Felix lay on his stomach, Theobald straddled his back and returned the favor. Felix was beginning to feel rather catlike himself—it felt so good!—when he began to be aware of a curious and almost inexplicable phenomenon:

When one human monkey does another the great service of scratching him, delightful as it is, it never *quite* hits the spot. With infuriating obtuseness, despite the most careful coaching, the scratcher will scratch just above, just below, all around the right spot, but never, never, *never* quite on it, until, in sheer frustration, the scratchee will nearly dislocate his shoulder going after it for himself.

Felix was giving Theobald no instructions; in fact, he was nearly faling asleep under the warm relaxing ecstasy of his son's ministrations, when he suddenly snapped to alert attention.

Theobald was scratching where Felix itched!

The exact spot. An area of sensation had only to show up for him to pounce on it and scratch it out of existence.

This was another matter that had to be taken up with Phyllis. He got up and explained what had happened to her, attempting the meanwhile to keep it from the child's attention by suggesting that he go for a run down the beach— "But don't go in more than ankle deep!"

"Just try him," he added, when he had told her of it. "He can do it. He really can."

"I'd like to," she said. "But I can't. I'm sorry to say that I am still fresh and clean and free from vulgar distresses."

"Phyllis—"

"Yes, Felix?"

"What kind of a person can scratch where another person itches?"

"An angel."

"No, seriously."

"You tell me."

"You know as well as I do. That kid's a telepath!"

They both looked down the beach at a small, skinny, busy silhouette. "I know how the hen felt that hatched the ducks," said Phyllis softly. She got quickly to her feet. "I'm going in and get some salt on me, and let it dry. I've got to find out about this."

Hamilton Felix took his son into the city the next day. There were men attached to the Great Research who knew much more about such things than either he or Phyllis; he wished them to examine the boy. He took Theobald to his office, supplied him with a scroll and a reader—a dodge which would tie him to one spot almost as effectively as if he were chained down—and called Jacobstein Ray by telephone. Jacobstein was in charge of a team investigating telepathy and related phenomena.

He explained to Jake that he was unable to leave his own office at the moment. Could Jake drop over, or was he tied up? Jake could and would: he arrived a few minutes later. The two men stepped into an adjoining room, out of earshot of the child. Felix explained what had taken place on the beach and suggested that Jake look into it.

Jake was willing and interested. "But don't expect too much from it," he cautioned. "We've demonstrated telepathy in young children time and again, under circumstances which made it a statistical certainty that they were receiving information by no known physical means. But there was never any control in the business, the child was never able to explain what was going on, and the ability faded away to nothing as the child grew up and became more coherent. It seems to shrivel away just like the thymus gland."

Hamilton looked alert. "Thymus gland? Any correlation?"

"Why, no. I just used that as a figure of speech."

"Mightn't there be?"

"It seems most unlikely."

"Everything about this business seems most unlikely. How about putting a crew on it? A good biostatistician and one of your operators?"

"I will if you wish."

"Good. I'll stat an open voucher to your office. It's probably a blind alley, but you never know!"

(Let us add hastily that it was a blind alley. Nothing ever came of it, but a slight addition to the enormous mass of negative information which the layman is usually not aware of, but which constitutes the main body of scientific knowledge. A rat finds its way out of a maze by eliminating blind alleys.)

Felix and Jake went back into the room where Theobald sat reading. They seated themselves first, in order to be on the same level as the child, and Felix performed the introduction with proper attention to the enormous and vulnerable dignity of a child. He then said:

"Look, sport, dad wants you to go with Jake and help him with some things for an hour or so. How about it?"

"Why?"

That was a tough one. With less-than-adult minds it had been found to be optimum procedure to keep them from knowing the purpose of the experimentation. "Jake wants to find out some things about the way your mind works. He'll talk with you about it. Well—will you help him?"

Theobald thought about it.

"It will be a favor to dad." Phyllis could have warned him against that approach. Theobald had been rather slow in reaching the degree of social integration necessary to appreciate the cool pleasure of conferring benefits on others.

"Will you do me a favor?" he countered.

"What do you want?"

"A flop-eared buck." The boy had been raising rabbits, with some adult assistance; but his grandiose plans, if unchecked, would have resulted in their entire home being given over to fat, furry rodents. Nevertheless, Hamilton was somewhat relieved to find the favor desired was no larger.

"Sure thing, sport. You could have had one anyhow."

Theobald made no answer, but stood up, signifying his willingness to get on with it.

After they had gone Hamilton considered the matter for a moment. A new buck rabbit was all right; he did not mind that as much as he would have minded a new doe. But something had to be done fairly soon, or else his garden would have to be abandoned.

Theobald seemed to be working out, with the busy and whole-hearted collaboration of his rabbits, an interesting but entirely erroneous neo-Mendelian concept of inherited characteristics. Why, he wanted to know, did white bunnies some-

times have brown babies? Felix pointed out that a brown buck had figured in the matter, but soon bogged down, and turned the matter over to Mordan—accepting as inevitable the loss of face involved.

Theobald, he knew, was quite capable now of being interested in the get of a flop-eared buck.

The boy had formulated an interesting, but decidedly specialized, arithmetic to keep his records of rabbits, based on the proposition that one plus one equals at least five. Hamilton had discovered it by finding symbols in the boy's rabbit notebook with which he was unfamiliar. Theobald boredly interpreted them for him.

Hamilton showed the records to Monroe-Alpha the next time Monroe-Alpha and Marion showed up at his home. He had regarded it as an amusing and insignificant joke, but Clifford took it with his usual dead seriousness. "Isn't it about time you started him on arithmetic?"

"Why, I don't think so. He is a little young for it—he's hardly well into mathematical analysis." Theobald had been led into mathematical symbolism by the conventional route of generalized geometry, analysis, and the calculi. Naturally, he had not been confronted with the tedious, inane, and specialized mnemonics of practical arithmetic—he was hardly more than a baby.

"I don't think he is too young for it. I had devised a substitute for positional notation when I was about his age. I imagine he can take it, if you don't ask him to memorize operation tables." Monroe-Alpha was unaware that the child had an eidetic memory and Hamilton passed the matter by. He had no intention of telling Monroe-Alpha anything about Theobald's genetic background. While custom did not actually forbid such discussion, good taste, he felt, did. Let the boy alone—let him keep his private life private. He and Phyllis knew, the geneticists involved had to know, the Planners had had to know—since this was a star line. Even that he regretted, for it had brought such intrusions as the visit of that old hag Carvala.

Theobald himself would know nothing, or very little, of his ancestral background until he was a grown man. He might not inquire into it, or have it brought to his attention, until he reached something around the age Felix had been when Mordan called Felix's attention to his own racial significance.

It was better so. The pattern of a man's inherited characteristics was racially important and inescapable anyhow, but too much knowledge of it, too much thinking about it, could be suffocating to the individual. Look at Cliff—damned near went off the beam entirely just from thinking about his great grandparents. Well, Marion had fixed *that*.

No, it was not good to talk too much about such things. He himself had talked too much a short time before, and had been sorry ever since. He had been telling Mordan his own point of view about Phyllis having any more children—after the baby girl to come, of course. Phyllis and he had not yet come to agreement about it; Mordan had backed up Phyllis. "I would like for you two to have at least four children, preferably six. More would be better, but we probably would not have time enough to select properly for that many."

Hamilton almost exploded. "It seems to me that you make plans awfully easy—for other people. I haven't noticed you doing *your* bit. You are pretty much of a star line yourself—how come? Is this a one-way proposition?"

Mordan had kept his serenity. "I have not refrained. My plasm is on deposit, and available if wanted. Every moderator in the country saw my chart, in the usual course of routine."

"The fact remains that you haven't done much personally about children."

"No. No, that is true. Martha and I have so many, many children in our district, and so many yet to come, that we hardly have time to concentrate on one."

From the peculiar phraseology Hamilton gained a sudden bit of insight. "Say . . . you and Martha are married—*aren't* you?"

"Yes. For twenty-three years."

"Well, then . . . but, why—"

"We *can't*," Mordan said flatly, with just a shade less than his usual calm. "She's a mutation . . . sterile."

Hamilton's ears still burned to think that his big mouth had maneuvered his friend into making such a naked disclosure. He had never guessed the relationship; Martha *never* called Claude anything but "chief"; they used no words of endearment, nor let it creep otherwise into their manner. Still, it explained a lot of things—the rapportlike co-operation between the technician and the synthesist, the fact that Mordan had shifted to genetics after starting a brilliant career in social administration, Mordan's intense and fatherly interest in his charges.

He realized with a slight shock that Claude and Martha were as much parents of Theobald as were Phyllis and himself—foster parents, godparents. Mediator parents might be the right term.

They were mediator parents to hundreds of thousands, he didn't know how many.

But this wasn't getting his work done—and he would have to go home early today, because of Theobald. He turned to his desk. A memorandum caught his eye—from himself to himself. Hm-m-m—he would have to get after that. Better talk to Carruthers. He swung around toward the phone.

"Chief?"

"Yes, Felix."

"I was talking with Dr. Thorgsen the other day, and I got an idea—may not be much in it."

"Give." Way out on far Pluto, the weather is cold. The temperature rarely rises above eighteen centigrade degrees *absolute* even on the side toward the sun. And that refers to high noon in the open sunlight. Much of the machinery of the observatories is exposed to this intense cold. Machinery that will work on Terra will not work on Pluto, and vice versa. The laws of physics seem to be invariable but the characteristics of materials change with changes in temperature—consider ice and water, a mild example.

Lubricating oil is a dry powder at such temperatures. Steel isn't steel. The exploring scientists had to devise new technologies before Pluto could be conquered.

Not only for mobiles but for stables as well—such as electrical equipment. Electrical equipment depends on, among other factors, the resistance characteristics of conductors: extreme cold lowers the electrical resistance of metals amazingly. At thirteen degrees centigrade absolute lead becomes a superconductor—it has no resistance whatsoever. An electric current induced in such lead seems to go on forever, without damping.

There are many other such peculiarities. Hamilton did not go into them—it was a sure thing that a brilliant synthesist such as his chief had all the gross facts about such matters. The main fact was this: Pluto was a natural laboratory for low-temperature research, not only for the benefit of the observatories but for every other purpose.

One of the classic difficulties of science has to do with the fact that a research man can always think of things he wants to measure before instruments for the purpose have been devised. Genetics remained practically at a standstill for a century before ultramicroscopy reached the point where genes could really be seen. But the peculiar qualities of superconductors and near-superconductors gave physicists an opportunity, using such chilled metals in new instruments, to build gadgets which would detect phenomena more subtle than ever before detected.

Thorgsen and his colleagues had stellar bolometers so accurate and so sensitive as to make the readings of earlier instruments look like a casual horseback guess. He claimed to be able to measure the heat from a flushed cheek at ten parsecs. The colony on Pluto even had an electromagnetic radiation receiver which would—sometimes—enable them to receive messages from Terra, if the Great Egg smiled and everyone kept their fingers crossed.

But telepathy, if it was anything physical at all—whatever "physical" may mean!—should be detectable by some sort of a gadget. That the gadget

would need to be extremely sensitive seemed a foregone conclusion; therefore, Pluto seemed a likely place to develop one.

There was even some hope to go on. An instrument—Hamilton did not remember what it had been—had been perfected there, had worked satisfactorily, and then had performed very erratically indeed—when the two who had perfected it attempted to demonstrate it in the presence of a crowd of colleagues. It seemed sensitive to living people.

To *living* people. Equivalent masses, of blood temperature and similar radiating surfaces, did not upset it. But it grew querulous in the presence of human beings. It was dubbed a "Life Detector"; the director of the colony saw possibilities in it and instigated further research.

Hamilton's point to Carruthers was this: Might not the so-called life detector be something that was sensitive to whatever it was they called telepathy? Carruthers thought it possible. Would it not then be advisable to instigate research along that line on Terra? Decidedly. Or would it be better to send a team out to Pluto, where low temperature research was so much more handy? Go ahead on both lines, of course.

Hamilton pointed out that it would be a year and a half until the next regular ship to Pluto. "Never mind that," Carruthers told him. "Plan to send a special. The Board will stand for it."

Hamilton cleared the phone, turned it to recording, and spoke for several minutes, giving instructions to two of his bright young assistants. It was convenient, he thought, to have really adequate staff assistance. He referred to his next point of agenda.

In digging back into the literature of the race it had been noted that the borderline subjects of the human spirit with which he was now dealing had once occupied much more of the attention of the race than now was the case. Spiritism, apparitions, reports of the dead appearing in dreams with messages which checked out, "Ghosties, and Ghoulies, and Things that go Flop in the Dark" had once obsessed the attention of many. Much of the mass of pseudo-data seemed to be psychopathic. But not all of it. This chap Flammarion, for example, a professional astronomer (or was he an astrologer?—there used to be such, he knew, before space flight was developed) anyhow, a man with his head screwed on tight, a man with a basic appreciation for the scientific method even in those dark ages. Flammarion had collected an enormous amount of data, which, if even one percent of it was true, proved survival of the ego after physical death beyond any reasonable doubt.

It gave him a lift just to read about it.

Hamilton knew that the loose stories of bygone days did not constitute evidence of the first order,



SNOWBALLS IN SUMMER

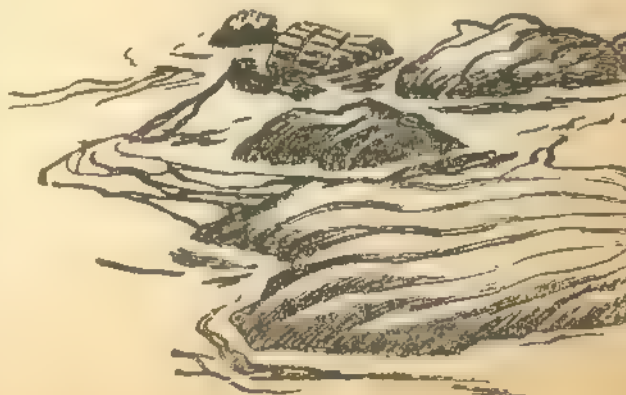
☉ On the City of Tulsa, in mid-Pacific waters, the heat of a midsummer day beat down unmercifully.

Yet Johnny Littlejohn was hurling snowballs!

It was the start of a weird puzzle that landed Doc Savage and his aids on a South Sea atoll in the hands of modern pirates. It's one of his best: **PIRATE ISLE**, in the May issue of

DOC SAVAGE

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but some of it, after examination by psychiatric semanticists, could be used as evidence of the second order. In any case, the experience of the past might give many a valuable clue for further research. The hardest part of this aspect of the Great Research was to know where to start looking.

There were a couple of old books, for example, by a man named Doon, or Dunn, or something of the sort—the changes in speech symbols made the name uncertain—who had tediously collected records of forerunner dreams for more than a quarter of a century. But he had died, no one had followed up his work, and it had been forgotten. Never mind—Dunn's patience would be vindicated; over ten thousand careful men, in addition to their other activities, made a practice of recording their dreams immediately on waking, before speaking to anyone or even getting out of bed. If dreams ever opened a window into the future, the matter would soon be settled, conclusively.

Hamilton himself tried to keep such records. Unfortunately, he rarely dreamed. No matter—others did, and he was in touch with them.

The old books Hamilton wished to have perused were mostly obscure and few translations had ever been made; idiom presented a hazard. There were scholars of comparative lingo, of course, but even for them the job was difficult. Fortunately, there was immediately at hand a man who could read English of the year 1926 and for at least the century preceding that date—a particularly rich century for such research, as the scientific method was beginning to be appreciated by some but the interest in such matters was still high. Smith John Darlington—or J. Darlington Smith, as he preferred to be called. Hamilton had co-opted him.

Smith did not want to do it. He was very busy with his football industry; he had three associations of ten battle groups each, and a fourth forming. His business was booming; he was in a fair way to becoming as rich as he wanted to be, and he disliked to spare the time.

But he would do it—if the man who gave him his start in business insisted. Felix insisted.

Felix telephoned him next. "Hello, Jack."

"Howdy, Felix."

"Do you have any more for me?"

"I've a stack of spools shoulder high."

"Good. Tube them over, will you?"

"Sure. Say, Felix, this stuff is awful, most of it."

"I don't doubt it. But think how much ore must be refined to produce a gram of native radium. Well, I'll clear now."

"Wait a minute, Felix. I got into a jam last night. I wonder if you could give me some advice."

"Certainly. Give." It appeared that Smith, who,

in spite of his financial success, was a brassarded man and technically a control natural, had inadvertently given offense to an armed citizen by refusing to give way automatically in a public place. The citizen had lectured Smith on etiquette. Smith had never fully adjusted himself to the customs of a different culture; he had done a most inurbane thing—he had struck the citizen with his closed fist, knocking him down and bloodying his nose.

Naturally, there was the deuce to pay, and all big bills.

The citizen's next friend had called the following morning and presented Smith with a formal challenge. Smith must either accept and shoot it out, apologize acceptably, or perforce be evicted from the city bodily by the citizen and his friends, with monitors looking on to see that the customs were maintained.

"What ought I to do?"

"I would advise you to apologize." Hamilton saw no way out of it; to advise him to fight was to suggest suicide. Hamilton had no scruples about suicide, but he judged correctly that Smith preferred to live.

"But I can't apologize, Felix. I was ahead of him in line. Honest, I was."

"But you were brassarded."

"But— Look, Felix, I want to shoot it out with him. Will you act for me?"

"I will if you request it. He'll kill you, you know."

"Maybe not. I might happen to beat him to the draw."

"Not in a set duel you won't. The guns are cross-connected. Your gun won't burn until the referee flashes the signal."

"I'm fairly fast."

"You're outclassed. You don't play football yourself, you know. And you know why."

Smith knew. He had planned to play, as well as manage and coach, when the enterprise was started. A few encounters with the men he had hired soon convinced him that an athlete of his own period was below average in this present period. In particular his reflexes were late. He bit his lip and said nothing.

"You sit tight," said Felix, "and don't go out of your apartment. I'll do a little calling and see what can be worked out."

The next friend was polite but regretful. Awfully sorry not to oblige Master Hamilton but he was acting under instructions. Could Master Hamilton speak with his principal? Now, really that was hardly procedure. But he admitted that the circumstances were unusual—give him a few minutes, then he would phone back.

Hamilton received permission to speak to the principal; called him. No, the challenge could

not be lifted—and the conversation was strictly under the rose. Procedure, you know. He was willing to accept a formal apology; he did not really wish to kill the man.

Hamilton explained that Smith would not accept the humiliation—could not, because of his psychological background. He was a barbarian and simply could not see things from a gentleman's point of view. Hamilton identified Smith as the Man from the Past.

The principal nodded. "I know that now. Had I known that before, I would have ignored his rudeness—treated him like a child. But I didn't know. And now, in view of what he did—well, my dear sir, I can hardly ignore it, can I?"

Hamilton conceded that he was entitled to satisfaction, but suggested that it would make him publicly unpopular to kill Smith. "He is rather a public darling, you know. I am inclined to think that many will regard it as murder to force him to fight."

The citizen had thought of that. Rather a dilemma, wasn't it?

"How would you like to combat him physically—punish him the way he damaged you, only more so?"

"Really, my dear sir!"

"Just an idea," said Hamilton. "You might think about it. May we have three days' grace?"

"More, if you like. I told you I was not anxious to push it to a duel. I simply want to curb his manners. One might run into him anywhere."

Hamilton let it go at that, and called Mordan, a common thing when he was puzzled. "What do you think I ought to do, Claude?"

"Well, there is no real reason why you should not let him go ahead and get himself killed. Individually, it's his life; socially, he's no loss."

"You forget that I am using him as a translator. Besides, I rather like him. He is pathetically galling in the face of a world he does not understand."

"Mm-m-m—well, in that case, we'll try to find a solution."

"Do you know, Claude," Felix said seriously, "I am beginning to have my doubts about this whole custom. Maybe I'm getting old, but, while it's lots of fun for a bachelor to go swaggering around town, it looks a little different to me now. I've even thought of assuming the brassard."

"Oh, no, Felix, you mustn't do that!"

"Why not? A lot of people do."

"It's not for you. The brassard is an admission of defeat, an acknowledgment of inferiority."

"What of it? I'd still be myself. I don't care what people think."

"You're mistaken, son. To believe that you can live free of your cultural matrix is one of the easiest fallacies to fall into, and has some of the

worst consequences. You are a part of your group whether you like it or not, and you are bound by its customs."

"But they're only customs!"

"Don't belittle customs. It is easier to change Mendelian characteristics than it is to change customs. If you try to ignore them, they bind you when you least expect it."

"But dammit! how can there be any progress if we don't break customs?"

"Don't break them—avoid them. Take them into your considerations, examine how they work, and make them serve you. You don't need to disarm yourself to stay out of fights. If you did you would get into fights—I know you!—the way Smith did. An armed man need not fight. I haven't drawn my gun for more years than I can remember."

"Come to think about it, I haven't pulled mine in four years or more."

"That's the idea. But don't assume that the custom of going armed is useless. Customs always have a reason behind them, sometimes good, sometimes bad. This is a good one."

"Why do you say that? I used to think so, but I have my doubts now."

"Well, in the first place an armed society is a polite society. Manners are good when one may have to back up his acts with his life. For me, politeness is a *sine qua non* of civilization. That's a personal evaluation only. But gun fighting has a strong biological use. We do not have enough things that kill off the weak and the stupid these days. But to stay alive as an armed citizen a man has to be either quick with his wits or with his hands, preferably both. It's a good thing.

"Of course," he continued, "our combativeness has to do with our ancestry and our history." Hamilton nodded; he knew that Mordan referred to the Second Genetic War. "But we have preserved that inheritance intentionally. The Planners would not stop the wearing of arms if they could."

"Maybe so," Felix answered slowly, "but it does seem like there ought to be a better way to do it. This way is pretty sloppy. Sometimes the bystanders get burned."

"The alert ones don't," Mordan pointed out. "But don't expect human institutions to be efficient. They never have been; it is a mistake to think that they can be made so—in this millennium or the next."

"Why not?"

"Because we are sloppy, individually—and therefore collectively. Take a look at a cageful of monkeys, at your next opportunity. Watch how they do things and listen to them chatter. You'll find it quite instructive. You'll understand humans better."

Felix grinned. "I think I see what you mean.

But what am I to do about Smith?"

"If he gets out of this, I think he had better wear a gun after this. Perhaps you can impress on him then that his life will depend on the softness of his words. But for the present—I know this chap he challenged. Suppose you suggest me as referee."

"Are you going to let them fight?"

"In my own way. I think I can arrange for them to fight barehanded." Mordan had delved back into his encyclopedic memory and had come out with a fact that Hamilton would not fully appreciate. Smith had come from a decadent period in which hand fighting had become stylized as fist fighting. No doubt he was adept in it. It was necessary for one not to use the gun with which he was adept; it was equitable that the other not use fists, were he adept in their use. So Mordan wished to referee that he might define the rules.

It is not necessary to give overmuch attention to that rather unimportant and uncolorful little man, J. Darlington Smith. Hamilton was forced to withdraw as next friend, since Carruthers needed him at the time, and did not, therefore, see the encounter. He learned of it first by discovering that Smith was immobilized in an infirmary, suffering from some rather unusual wounds. But he did not quite lose the sight of his left eye and his other damages were mostly gone in a couple of weeks.

All of which happened some days later.

Hamilton turned back to his work. There were various little matters to attend to. One team of researchers in particular belonged to him alone. He had noticed when he was a boy that a physical object, especially a metallic one, brought near to his forehead above the bridge of the nose seemed to produce some sort of a response inside the head, not connected, apparently, with the physiological senses. He had not thought of it for many years, until the Great Research had caused him to think of such things.

Was it real, or was it imagination? It was a mere tightening of the nerves, an uneasy feeling, but distinct and different from any other sensation. Did other people have it? What caused it? Did it mean anything?

He mentioned it to Carruthers who had said, "Well, don't stand there speculating about it. Put a crew to work on it."

He had. They had already discovered that the feeling was not uncommon but rarely talked about. It was such a little thing and hard to define. Subjects had been found who had it in a more marked degree than most—Hamilton ceased being a subject for experimentation himself.

He called the crew leader. "Anything new, George?"

"Yes and no. We have found a chap who can distinguish between different metals nearly eighty percent of the time, and between wood and metal every time. But we are still no nearer finding out what makes it tick."

"Need anything?"

"No."

"Call me if you need me. Helpful Felix the Cheerful Cherub."

"O. K."

It must not be supposed that Hamilton Felix was very important to the Great Research. He was not the only idea man that Carruthers had, not by several offices. It is probable that the Great Research would have gone on in much the same fashion, even during his lifetime, even if he had not been co-opted. But it would not have gone in quite the same way.

But it is hard to evaluate the relative importance of individuals. Who was the more important?—the First Tyrant of Madagascar, or the nameless peasant who assassinated him? Felix's work had some effect. So did that of each of the eighty-thousand-odd other individuals who took part at one time or another in the Great Research.

Jacobstein Ray called back before he could turn his mind to other matters. "Felix? You can come over and take your young hopeful away, if you will."

"Fine. What sort of results?"

"Maddening. He started out with seven correct answers in a row, then he blew up completely. Results no better than random—until he stopped answering at all."

"Oh, he did, did he?" remarked Hamilton, thinking of a certain flop-eared buck.

"Yes indeed. Went limp on us. I'd as leave try to stuff a snake down a hole."

"Well, we'll try another day. Meanwhile I'll attend to him."

"I'd enjoy helping you," Jake said wistfully.

Theobald was just sitting, doing less than nothing, when Felix came in. "Hello, sport. Ready to go home?"

"Yes."

Felix waited until they were in the family car and the pilot set on home before bracing him. "Ray tells me you didn't help him very well."

Theobald twisted a string round his finger. He concentrated on it.

"Well, how about it? Did you, or didn't you?"

"He wanted me to play some stupid games," the child stated. "No sense to them."

"So you quit?"

"Yeah."

"I thought you told me you would help?"

"I didn't say I would."

Felix thought back. The child was probably

right—he could not remember. But he had had a feeling of contract, the “meeting of minds.”

“Seems to me there was a mention of a flop-eared rabbit.”

“But,” Theobald pointed out, “you said I could have it anyhow. You told me so!”

The rest of the trip home was mostly silence.

XIV.

Madame Espartero Carvala called again, unexpectedly and with no ceremony. She simply called by telephone and announced she was coming to see them. She had informed Phyllis on the previous occasion that she expected to come back to see the baby. But more than four years had passed with no word from her; Phyllis had given up expecting her. After all, one does not thrust oneself on a member of the cosmically remote Policy Board!

They had seen references to her in the news: Madame Espartero reconfirmed without opposition. Madame Espartero offers her resignation. The Grand Old Lady of the Board in failing health. Madame Espartero's alternate selected by special election. Carvala rallies in her fight for life. Planners honor sixtieth year of Service of the Oldest Member. Stereostories and news bits—she had become an institution.

Felix had thought when he saw her last that she looked older than any human being could. He realized when he saw her this time that he had been mistaken. She was still more incredibly frail and shrunken and she seemed to move with great effort. She compressed her lips tightly with each movement.

But her eye was still bright, her voice was still firm. She dominated her surroundings.

Phyllis came forward. “We are delighted. I never expected to see you again.”

“I told you I was coming back to see the boy.”

“Yes, I remember, but it has been a long time and you did not come.”

“No sense in looking a child over until he has shaped up and can speak for himself! Where is he? Fetch him in.”

“Felix, will you find him?”

“Certainly, my dear.” Felix departed, wondering how it was that he, a grown man and in full possession of his powers, could permit a little old woman, ripe for cremation, to get him so on edge. It was childish of him!

Theobald did not want to leave his rabbits. “I’m busy.”

Felix considered the plan of returning to the lounge and announcing that Theobald would receive Madame Espartero, if at all, at the rabbit run. But he decided that he could not do such a thing to Phyllis. “Look, son, there is a lady in there who wants to see you.”

No answer.



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"Make up your mind," Felix announced cheerfully. "Will you walk, or do you prefer to be dragged? It makes no difference to me."

Theobald looked slowly up his father's sheer two meters and, without further comment, started for the house.

"Madame Espartero, this is Theobald."

"So I see. Come to me, Theobald." Theobald stood fast.

"Go to her, Theobald," Phyllis spoke briskly. The boy complied at once.

Felix wondered why it was that the child obeyed his mother so much more readily than his father. Damn it, he was good to the child and just with him. There must have been a thousand times when he had refrained from losing his temper with him.

Madame Carvala spoke to him in a low voice, too low for either Felix or Phyllis to catch. He glowered and tried to look away, but she insisted, caught his eye, and held it. She spoke again, and he answered, in the same low tones. They talked together for some minutes, quite earnestly. Finally she straightened up in her chair and said in a louder tone: "Thank you, Theobald. You may go now."

He fled out of the house. Felix looked longingly after him, but decided he had to stay. He selected a chair as far across the room as manners permitted, and waited.

Carvala selected another cigar, puffed until she was the center of a cloud of blue smoke, and turned her attention exclusively to Phyllis. "He's a sound child," she announced. "Sound. He'll do well."

"I'm happy that you think so."

"I don't *think* so, I *know* so." They talked for a while longer about the boy, small talk. Felix had a feeling that the old woman was improvising until she was ready with whatever was on her mind.

"When do you expect to have his sister?"

"I am ready any time," replied Phyllis. "I have been for months. They are selecting for her now."

"What are they selecting for? Anything different from the boy?"

"Not in any major respect—except one. Of course there will be plenty of variation from what Theobald is, because in so many, many of the alternatives no attempt will be made to make a choice."

"What is the one major respect you spoke of?"

Phyllis told her of it. Since the coming child was to be a girl, its chromosome pattern would contain two X-chromosomes, one from each of its parents. Now philoprogenitiveness is, of course, a sex-linked characteristic. Hamilton, be it remembered, lacked it to a moderate degree. Theobald derived his one X-chromosome from his mother; Mordan confidently expected that he would be normal in his desire to have children of his own when he became old enough for such things to matter to him.

But his projected little sister would inherit from both her parents in this respect. She might be rather cool to the matter of having children. However, if she did have any, then *her offspring* need not be handicapped by any lack in this highly desirable survival trait; since she would pass on to her heirs but one of her two X-chromosomes, by selection, she could transmit only that of her mother. Hamilton's undesirable trait would be eliminated forever.

Carvala listened carefully to this explanation—or rather to that small portion of it Phyllis had found it necessary to relate—and nodded cheerfully. "Put your mind at rest, child. It won't matter a bit." She offered no elaboration of her words.

She talked of other matters for a while, then said suddenly, "Any time now, I take it?"

"Yes," Phyllis agreed.

Carvala stood up and took her departure as suddenly as she came. "I hope we will have the honor of your presence again, madame," Felix said carefully.

She stopped, turned, and looked at him. She took her cigar from her mouth and grinned. "Oh, I'll be back! You can count on that."

Felix stood scowling at the door through which she had left. Phyllis sighed happily. "She makes me *feel good*, Felix."

"She doesn't me. She looks like a corpse."

"Now, Filthy!"

Felix went outside and looked up his son. "Hi, sport."

"H'lo."

"What did she have to say to you?"

Theobald muttered something of which Felix caught only the term "cuss-boss!"

"Take it easy, son. What did she want?"

"She wanted me to promise her something."

"And did you?"

"No."

"What was it?"

But Theobald wasn't listening again.

After a late and pleasant supper in the cool of the garden Felix turned on the news, rather idly. He listened lackadaisically for a while, then suddenly called out, "Phyllis!"

"What is it?"

"Come here! Right away!"

She ran in; he indicated the spiling, flickering box:

"—dame Espartero Carvala. She appears to have died instantly. It is assumed that she stumbled near the top of the escalator, for she seemed to have fallen, or rolled, the entire flight. She will long be remembered, not only for her lengthy tenure on the Board, but for her pioneer work in—" Phyllis had switched it off. Felix saw that she had tears in her eyes, and refrained from the remark that he had intended to make, something

about her cockiness in saying that she would be sure to be back.

Hamilton did not think it advisable to take Theobald back to Jacobstein Ray again; he felt that an antipathy had already grown up. But there were others engaged in telepathy research; he selected a crew and introduced Theobald to them. But he had formed a theory about the former failure; the methods used then had been the simple methods considered appropriate for young children. This time they told Theobald what they were attempting to do and started him out with tests intended for adults.

He could do it. It was as simple as that. There had been other cases equally clear cut, and the research leader cautioned Felix not to expect too much, as telepathically sensitive children tended to fade out in the talent—which Felix knew. But he could do it. Theobald, at least within the limits of the conditions, could read minds.

So Felix called Mordan again, told him again of what was on his mind. Did Mordan think that Theobald was a mutation?

"Mutation? No, I have no data to go on."

"Why not?"

"'Mutation' is a technical term. It refers only to a new characteristic which can be inherited by Mendelian rules. I don't know what this is. Suppose you find out for me first what telepathy *is*—then I'll tell you whether or not Theobald can pass it on—say, about thirty years from now!"

Well, that could wait. It sufficed that Theobald was telepathic—at least for the present. The projected telepath gadget, which had derived from the Plutonian "Life Detector," was beginning to show promise. It had been duplicated in the auxiliary cold laboratory underneath the outskirts of Buenos Aires and had performed in the same fashion as on Pluto. It had been considerably refined, once the researchers knew the direction in which they were driving, but it had presented grave difficulties.

One of the difficulties had been straightened out in a somewhat odd fashion. The machine, while responsive to sentient beings (it would not respond to plants, nor to animal life of low form), did little else—it was not a true telepath. There was a cat, of doubtful origin, which had made itself the lab mascot—moved in and taken possession. While the gadget was sensitized the operator had stepped back without looking and stepped on pussy's tail. Pussy did not like it and said so.

But the technician acting as receiver had liked it even less; he had snatched off the headset, yelping. It had screamed at him, he alleged.

Further experimentation made it evident that the machine was especially sensitive to the thalamic storm aroused by any sudden violent emotion. Mere cool cerebration had much less effect on it.

However, banging a man on the thumb did not count. The man expected it, and delayed his reaction, routing it through the "cooler" of the fore-brain. The emotion had to be strong and authentic.

Many tails were stepped on thereafter; many cats sacrificed their temporary peace of mind to the cause of science.

Theobald developed a strange antipathy for his mother's company during the period when she was expecting the arrival of his sister. It upset Phyllis; Felix tried to reason him out of it. "See here, sport," he said, "Hasn't mamma been good to you?"

"Yeah. Sure."

"Then what's the trouble? Why don't you like her?"

"I like her all right—but I don't like *her*." His meaning was unmistakable. Felix held a hurried whispered consultation with his wife. "How about it, Phil? I thought we hadn't let him in on the news yet?"

"I haven't."

"I didn't—that's sure. Do you suppose Claude—no, Claude wouldn't spill it. Hm-m-m . . . well, there's only one other way he could have found out—he found out for himself." He looked at his son with a deeply wrinkled brow; it might not be too convenient, he was thinking, to have a telepathic member of the household. Well, it might wear off—it frequently did.

"We'll have to play it as it lies. Theobald."

"What'cha want?"

"Is it your little sister whom you don't like?"

The boy scowled and indicated assent.

"(It's probably nothing but natural jealousy. After all, he's been the big show around here all his life.)" He turned again to his son. "Look here, sport—you don't think that little sister will make any difference in how mamma and daddy feel about you, do you?"

"No. I guess not."

"A little sister will be a lot of fun for you. You'll be bigger than she will be, and you'll know a lot more, and you'll be able to show her things. You'll be the important one."

No answer.

"Don't you want a baby sister?"

"Not *that* one."

"Why not?"

He turned completely away. They heard him mutter, "Old cuss-boss!" Then he added distinctly, "and her cigars *stink*."

The threesome was adjourned. Phyllis and Felix waited until the boy was asleep and, presumably, with his telepathic ability out of gear. "It seems pretty evident," he told her, "that he has identified Carvala in his mind with Justina."

She agreed. "At least I'm relieved to know that

it isn't *me* he has a down on. Just the same, it's serious. I think we had better call in a psychiatrist."

Felix concurred. "But I'm going to talk to Claude about it, too."

Claude refused to be upset by it. "After all," he said, "it's perfectly natural that blood relatives should dislike each other. That's a prime datum of psychology. If you can't condition him to put up with her, then you'll have to rear them apart. A nuisance, but that's all."

"But how about this fixation of his?"

"I'm not a psychiatrist. I wouldn't worry too much about it. Children frequently get some funny notions. If you ignore them, they generally get over them."

So the psychiatrist thought, too. But he was totally unable to shake Theobald's conviction in the matter. He had made his point, he stuck to it, and he refused to argue.

It was a matter of prime significance, quite aside from Theobald's fantastic delusion, that a telepathic person had been able to locate a person whom he had never seen and whose existence he had no reason to suspect. It was a fair-sized brick in the Great Research. Dutifully, Hamilton reported the affair to Carruthers.

Carruthers was intensely interested. He asked questions about it, took the matter home with him, and nursed it. The next day he called in Felix, and explained to him a plan he had conceived. "Mind you," he said, "I'm not urging you to do this. I'm not even asking you. It's your wife, and your baby, and your boy. But I think it's a unique opportunity to advance the Research."

Felix thought about it. "I'll let you know tomorrow."

"How would you like," he said to Phyllis, when they were alone that night, "to go to Buenos Aires to have Justina?"

"Buenos Aires? Why there?"

"Because there is the only telepath machine on Earth. And it can't be moved out of the cold laboratory."

XV.

"I've got it again." The receiver for the telepath made the announcement grimly. The gadget was still cantankerous; during the past few days it had worked beautifully part of the time—about twenty minutes in all!—and had refused to come to life the rest of the time. It seemed to have soaked up some of the contrariness of the subtle life-force it tapped.

"What are you getting?"

"Feels like a dream. Water, long stretches of water. Shore line in the back with mountain

peaks." A recorder at his elbow took down everything he said, with the exact times.

"Are you sure it's the baby?"

"Sure as I was yesterday. Everybody is different over it. They taste different. I don't know how else to express it. Hold on! Something else—a city, a damn big city, bigger than Buenos Aires."

"Theobald," said Mordan Claude gently, "can you still hear her?" Mordan had been brought because Felix conceded that Claude had a handier way with the child than Felix. The child could not hear the telepath receiver where they had spotted him, although Claude could cut in through an earphone. Phyllis, of course, was in another room—it made no difference to the gadget, nor to Theobald. Felix had a roving assignment, privileged to make a nervous nuisance out of himself to anyone.

The boy leaned back against Mordan's thigh. "She's not over the ocean any more," he said. "She's gone to Capital City."

"Are you sure it's Capital City?"

"Sure." His voice was scornful. "I been there, ain't I? And there's the tower."

Beyond the partition, someone was asking, "A modern city?"

"Yes. Might be the Capital. It's got a pylon like it."

"Any other details?"

"Don't ask me so many questions—it breaks into the reverie . . . she's moving again. We're in a room . . . lot of people, all adults. They're talking."

"What now, son?" Claude was saying.

"Aw, she's gone to that party again."

Two observers, standing clear of the activity, were whispering. "I don't like it," the short one said. "It's ghastly."

"But it's happening."

"But don't you realize what this means, Malcolm? Where can an unborn child get such concepts?"

"Telepathically from its mother, perhaps. The brother is certainly a telepath."

"No, no, no! Not unless all our conceptions of cerebration are mistaken. Conceptions are limited to experiences, or things similar to experiences. An unborn child has experienced nothing but warmth and darkness. It couldn't have such conceptions."

"Hm-m-m."

"Well—answer me!"

"You've got me—I can't."

Someone was saying to the receiver, "Can you make out any of the people present?"

He raised his headset. "Quit bothering me! You drive it out with my own thoughts when you do that. No, I can't. It's like dream images . . . I think it is a dream. I can't feel anything unless she thinks about it."

A little later. "Something's happened . . . the dream's gone. Uneasy . . . it's very unpleasant . . . she's repeating it . . . it's . . . it's— Oh, Great— It's awful . . . it hurts! *I can't stand it!*" He tore off his headset, and stood up, white and shaking. At the same instant Theobald screamed.

It was a matter of minutes only when a woman came out the door of the room where Phyllis was and motioned to Hamilton.

"You can come in now," she said cheerfully.

Felix got up from where he had been kneeling with Theobald. "Stay with Uncle Claude, sport," he said, and went in to his wife.

XVI.

It was nice to be able to come to the beach again. It was swell that Phyllis felt up to such little expeditions. It was pleasant to lie in the sun with his family all around him and soak up comfort.

Things had not turned out the way he had planned, but things rarely did. Certainly he would never have believed all this a few years back—Phyllis and Baldy, and now Justina. Once he had asked Claude to tell him the meaning of life—now he did not care. Life was good, whatever it was. And the prime question had been answered, for him. Let the psychologists argue it all they pleased—there was a life, some kind of life, after this one. Where a man might find out the full answer—maybe.

For the main question: "*Do we get another chance?*" had been answered—by the back door. There was something more to the ego of a new born child than its gene pattern. Justina had answered that, whether she knew it or not. She had brought memory patterns with her; she had lived before. He was convinced of that. Therefore, it was a dead sure cinch that the ego went somewhere after the body disintegrated. Where, he would worry about when the time came.

It did seem extremely likely that Justina did not know what she had proved—and, of course, there was no way of asking her. Her telepathic

patterns after she was born were meaningless, confused, as one would expect of a baby. Shock amnesia the psychologists had decided to call it. Good a name as any. Being born must be something like being awakened out of a sound, dreamy sleep by a dash of cold water in the face. That would shock anybody.

He had not made up his mind yet whether he wanted to continue active in the Great Research, or not. He might just be lazy and raise dahlia bulbs and kids. He didn't know. Most of it was pretty long-distance stuff, and he personally was satisfied. Take that work that Cliff was on—centuries and then some. Cliff had compared the job to trying to figure out the entire plot of a long stereostory from just one flash frame.

But they would finish—some day. Theobald wouldn't see it, but he would see more of it than Felix, and his son would see still more. His sons would roam the stars—no limit.

It was nice that Theobald seemed to have gotten over that ridiculous fixation identifying Justina with old Carvala. True, he did not seem actually fond of the baby, but that would be expecting a lot. He seemed more puzzled by her, and interested.

There he was now, leaning over the baby's basket. He really did seem—

"Theobald!"

The boy stood up straight quickly.

"What were you doing?"

"Nothing." Maybe so—but it *looked* very much as if he had pinched her.

"Well, I think you had better find another place to do it. The baby needs to sleep now."

The boy shot a quick glance at the infant and turned away. He walked slowly down toward the water.

Felix settled back, after glancing over at Phyllis. Yes, she was still asleep. It was a good world, he assured himself again, filled with interesting things. Of which the most interesting were children. He glanced down at Theobald. That boy was a lot of fun now, and would be more interesting as he grew up—if he could refrain from wringing his cussed little neck in the meantime!

THE END.



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THE BIRTH OF A SUPERSTITION

By Willy Ley

● There's an item a lot of people "know" that ain't so: the ancient Greeks were not color-blind to blue. But how'd the idea that they were ever get started?

Illustrated by Kramer

It is anything but an exaggeration to state that misconceptions, once formed, display a "survival value" which puts even the proverbial—albeit unscientific—nine-lived cat to shame. There is nothing on Earth that is as persistent and as insidious, as penetrating and as permanent as a nice, juicy and impressive blunder.

Twenty times at least it has been proved that young George Washington did not chop down a cherry tree; thirty times it has been asserted that Beethoven did not say "fate knocks at the door" in reference to the first four notes of his Fifth

Symphony. Yet, when you open your newspaper tomorrow morning or your weekly five-cent magazine, you'll find—not the denials, but a reference to the original story. Cinderella did not wear glass slippers, but ermine slippers—that story resulted from a mix-up of the two French terms *pantoufles de vair* and *pantoufles de verre*—but try and abolish the mistaken translation.

It seems that a misconception, resulting originally from a faulty observation or at least a faulty interpretation of a correct observation, achieves permanency as soon as it finds its way into print.

Once printed it stays printed. Of course, the corrections and denials find their way into print, too, but, somehow, it always happens that the original blunder finds its public, while the denials and corrections fail to do so. Sometime later somebody digs up the original story and, being ignorant of the corrections made in the meantime, re-reveals it as forgotten knowledge. It works somewhat like those alleged medieval curses that lie dormant in forbidden books. As long as the book stays locked up everything is all right, but when it is read the curse takes possession of the reader and he is bound to pass it on to the next victim.

This is especially true of one misconception which is more widely known and more widely believed than many other correct and, incidentally, much more useful bits of information.

I am speaking of the assertion that the ancient Greeks were not able to see the color "blue," as evidenced by the Homeric epics. Why this item of knowledge should find such an extended audience is more than slightly mysterious, but it happens to be the case. You can find it stated in well-meant serious books and it crops up, too, in novels—historic and otherwise—and short stories. Even one of the newspaper correspondents who reported on the war in Greece made passing mention of that "fact" in saying that the modern Greeks did see the blue of the Mediterranean Sea. One could feel him quiver with pride about the extensiveness of his knowledge.

I could simply state that the notion of the blue blindness of the ancient Greeks was disproved many years ago and that, according to modern knowledge, the Greeks of the heroic period could see blue as well as any man of today. But I think it advisable to relate the whole story in some detail, partly to prove the statement itself, partly because the development of that notion is a good example of how a misconception originates, how it takes root and grows into an independent life of its own.

It all began in 1858 when W. E. Gladstone published the third volume of his "Studies on Homer and the Homeric Age." This book contains a chapter on Homer's use of words denoting colors. Gladstone was greatly surprised about "the slight use of color, as compared with other elements of beauty" and he concluded that Iliad and Odyssey both exhibited "a vast predominance of the most crude and elemental forms of color, black and white, over every other, and the decided tendency to treat other colors as simply intermediate modes between these extremes."

In this chapter Gladstone emphasized that blue fares worst of all colors in Homer, that the sky and the sea are never called blue and that a word, "*kyanos*"—which was customarily translated as

"blue" and which did mean blue in later Greek writing—was often used in places where it could not possibly mean blue. Nineteen years later, in 1877, Gladstone published an article "The Colour Sense" in the magazine *The Nineteenth Century* in which he took an even stronger point of view, holding that Homer and his contemporaries did not see any colors at all, but just shades between white and black, in about the manner of a photographic emulsion.

During the interval between these two works two German scientists had joined hands with Gladstone. One of them, Lazarus Geiger, wrote a book called "The Evolution of Mankind" (1871) wherein he not only supported Gladstone with reference to Homer and to the ancient Greeks in general, but in which he also asserted that the other ancient civilizations had suffered from the same shortcoming. The books of the Vedas, the Avesta, even the Bible do not mention blue. It cannot be found in the Bible, either, although there would be ample opportunity for it, because the Bible mentions the sky—this is Geiger's count—not less than two hundred and fifty times. Even the Koran, which was written much later, does not contain the word "blue."

After this, an expert in another field, Dr. Hugo Magnus, professor of ophthalmology at the University of Breslau, after consulting with his father—who was professor of Oriental languages at the same university—decided to draw some conclusions from these finds. He published a book, "Die Geschichtliche Entwicklung des Farbensinnes" ("The Historic Development of the Color Sense") in which he surveyed the material collected by Gladstone and by Geiger. Based on the evident complete or partial color blindness of the peoples living prior to 1000 B. C., Magnus evolved the theory that the color sense represents a very recent step in the evolutionary process. The acquisition of the color sense could even be dated; among the Greeks it took place during the interval between Homer and Plato, among the Romans slightly later and last among the Semitic tribes, as proved by even the latest books of the Bible and the still later Koran.

Cases of color blindness in our time had, therefore, to be taken as atavisms and Dr. Magnus prophesied that people a thousand years hence would be able to see and to distinguish new colors in the ultraviolet, still invisible in 1900 A. D.

It sounded very convincing. We have to remember that it was the general and accepted belief at that time—which, as we know now, hardly holds true—that aborigines cannot tell good paintings from bad, that their musical taste is worthless and that their evaluation of smells is simply atrocious. Even modern man is not born with an aversion against bad smells, or harsh color combinations or

"hot" music. He has to attain these faculties by developing his sense of discrimination. And we all know that some—including orchestra leaders and painters—never do.

The investigations of the Gladstone-Geiger-Magnus group seemed to offer an explanation for all this, at least as far as the sense of vision was concerned. If the various white nations had acquired their color sense at about the time of Christ and not earlier, it was not at all surprising that the aborigines had not progressed that far even in the Nineteenth Century.

Somebody found out that a very early author, Pliny the Elder, had actually told the story. Somewhere he had said that at first paintings were executed with red pigments only, then with red and yellow, that black and white were added later and finally the full range of the colors of the rainbow. As for the rainbow itself it offered additional proof. Xenophanes had said that it was purple, red and yellowish-green. Aristotle had called it red, green and blue with a narrow yellowish band between red and green. And the Edda had spoken about "three-colored rainbow bridge."

Further proof could be found in the etymology of the word "blue" itself. In Italian it is *biavo*, in French *bleu*, in German *blau*, all these words going back to the Old Norse *blá*, which, however, is also the root of "black." This closed the circle, a Norse term which meant blue as well as black—and all Romanic languages were forced to borrow it because they had none of their own. Evidently the Norse had learned to see blue earlier, naming it with a modification of their word for black when it emerged from the darkness of the invisible.

It all seemed to fit into the evolutionary scheme that Magnus sketched out. The two "warm" colors, red and yellow, he said, were seen first, only much later did the eye learn to discern the shorter wave lengths which originally had failed to register at all on the retina.

And then the three-colored rainbow bridge collapsed and Gladstone and Magnus—Geiger had died in the meantime—found themselves marooned in the lofty tower of an unsupported theory, built on the Homeric isle that "solemnly lieth in the Western gloom, surrounded by waves of purple and darkness."

Two men, curiously enough again an Englishman and a German, brought this about. The name of the Englishman was Grant Allen, that of the German Dr. Ernst Krause. Grant Allen—according to his self-description a "comparative psychologist"—concentrated his whole attack in one book ("The Colour Sense," London, 1879) which had been started before Gladstone and Magnus descended upon civilization with their nonsense. Ernst Krause did not write a book—which he did

frequently and well—but fired a long succession of blasts in magazine articles. They are pretty hard to locate now, sixty-five years later, and some were published under his pen name, Carus Sterne, an anagram of his real name.

Krause-Sterne seems to have recognized the true and not so very surprising cause for the Great Misunderstanding in a flash, because a complete refutation of the theory can be found in a hastily written review of Dr. Magnus' book. Starting with Geiger's statement that the Bible never calls the sky "blue" in spite of two hundred and fifty opportunities for doing it, Krause quietly pointed to *Exodus 24:10*. In the King James version this reads:

And they saw the God of Israel: and there was under his feet as if it were a paved work of a sapphire stone, and as the body of heaven in his clearness.

The Douay version renders the latter part of the sentence as:

—and under his feet as if it were a work of sapphire stone, and as the heaven, when clear.

Krause recognized the real shortcoming in this quote. It sounds very much as if a man tries his best to describe "blue," while lacking the term itself. In fact, the Hebrew language is said to lack a word for blue to this day—at least Geiger said so. The shortcoming was one of language, not of vision.

This simple explanation found substantiation in the fact that the lapis lazuli was highly valued in the ancient world. Krause pointed out that lapis lazuli is an opaque stone, that it does not scintillate, that it is neither very hard nor very heavy, in short that it has no interesting features except its color. And that color is blue—but if the ancients could not see blue, why did they value it? The same goes for the turquoise and I may add that one of the twelve stones in the breastplate of the High Priest was a turquoise. And the tribe represented by this stone—I forgot which one—carried a flag "the color of the turquoise."

Krause also pointed out that the two objects most likely to look blue in Nature are the sky and the sea. But those old poems of Homer that were the starting point of the whole controversy, were written at the shore of the Mediterranean Sea, where a blue sky—and consequently a blue sea—is normal. If the sea looked different to Homer at dusk or flamed red and yellow with sunrise and sunset, he said so explicitly and vividly.

So much for Dr. Krause's answer to Gladstone and Magnus. He forgot to add that Magnus should have incorporated his small book on the development of the color sense in another bigger



work he wrote. The title of that bigger work is "Superstition in Medicine"!

Grant Allen, the "comparative psychologist," had been working on a thesis the gist of which was "color sense comes from fruit eating" when Gladstone and company made their big discovery. It caused him to rewrite a part of his book and to add one or two chapters, but otherwise he saw no reason to doubt his own work.

For years Allen had been corresponding with zoologists about the color sense of animals and had been mailing questionnaires to all parts of the British Empire, inquiring about the color sense of the aborigines. Their taste was often enough "barbaric," but it always implied perfect color vision. "I may as well say at once," he wrote, "that the questionnaires bore out *in every case* (his italics) the supposition that the color sense is, as a whole, absolutely identical throughout all branches of the human race."

But he found several instances of missing color words, bearing out Krause's assertion that the

shortcoming was of purely linguistic nature. He found, for example, that South African tribes lack a native word for violet, but they were able to see that color. A Mozambique used a Dutch word in his native speech, the term "purple," something he knew but could not name except with a borrowed word.

Much nearer home, Allen found another example of linguistic inadequacy. The Highland Scots use the word *gorm* for the color of the sky as well as for that of grass—but to suggest that they are, therefore, color-blind, might be unwise. Furthermore, Allen pointed out, even our own color words are rather clumsy. Lilac, lavender, violet, pink, saffron, cherry, orange and chocolate are color words, but they are also the names of objects, mainly flowers. They are not color words originally and a term like "cherry" can describe the greater part of the visible spectrum when taken too literally. Emulating Gladstone's methods, Allen finally counted the color words in a poem by a man who was certainly not color-blind and

who had the whole vocabulary of recent English at his disposal. The poem was Tennyson's "Princess" and Allen found: red ten times, rosy and similar terms denoting shades of red ten times, golden, gold et cetera twenty-six times, purple eight times, yellow and orange each once, together fifty-six mentions of the red-yellow half of the spectrum. The green-blue half of the spectrum was represented as follows: green five times, azure three times, blue, violet and lilac once each, together eleven. Which proves that Tennyson saw red-yellow five times better than green-blue.

And now I'll go in for a few Gladstonisms myself, looking back at the language of the Twentieth Century from, say, 2500 A. D.

Even after a short and cursory contemplation of the available material, it becomes evident that the people of the Twentieth Century had a very weak color vision, in fact it seems as if the only color they saw well was red. Else it could not be explained that they offered a choice of red or white wine at dinner. Wine that is not red is yellow—but the alternate explanation that the choice was wine or milk might be acceptable. It is known that they drank milk.

Even the ability to see the color "red" must have been recently acquired in the Twentieth Century. An earlier English poet by the name of William Shakespeare wrote in "Macbeth":

"—here lay Duncan

His silver skin laced with his golden blood."

This proves that he could see only a difference in intensity; blood is, after all, red and the skin of the "white" race is pink. Besides they used a term derived from the Latin word *niger* for the colored race, the word Negro. But *niger* means definitely black, while the Negroes were of a blackish brown color.

The Russians of the Twentieth Century must have been able to see red, since one of their daily newspapers was called *Krassanaya Zvyesda* or *Red Star*. But they could not see blue, there was no word for blue in their language. Rather, they had two such words, one used in reference to the color of the sky on a clear day, the other for dark-blue. It is evident that those terms also denoted simply a difference in intensity.

The French of the same period called a dark-red variety of wine "blue wine" and referred to the hour of dusk as *l'heure bleue*—"blue" must have meant just darkness to them.

As for the Germans of the Twentieth Century it can be regarded as an established fact that they were *completely* color-blind. In the first place they had only one word—*Farbe*—for dye, color, pigment and paint. They called rye bread "black bread" and a pine forest Black Forest—it is obvious that any dark shade, whether brown or

green, looked simply black to them. They—and others—referred to nobility as blue-blooded. They named a certain type of beer *Weissbier*—white beer.* They called a coppersmith *Rotschmid*—red-smith as distinct from an iron or blacksmith—although the metal such a man worked with was mostly yellow brass. Finally they called an intoxicated man "blue." This usage clinches the case, because it is known that that idiomatic term was used as a superlative for "drunk." It meant senselessly drunk. Senselessness implies mental darkness, dark is black and black is blue—Twentieth Century English also used the term "blue" in a connotation of mental despair, mental darkness.

You say this is nonsense? But I was only imitating Gladstone's reasoning. Of course he referred to a more noble language, classic Greek, where he found that Homer used *leukos* for white, *mélas* for black, *erythros* for red, and *xanthos* probably for yellow. He also found that *chloros*—green—and *ochros*—ochre—were sometimes used interchangeably and he was quite sure that *kyanos* never meant blue but just dark, because it was applied to the eyebrows of Zeus, the hair of Hector and of Hera and the mourning cloak of Thetis. It never occurred to him that Homer did not need to worry about the distinction between blond and brunet since they were all black-haired. But black hair can have a bluish or a reddish sheen, that was the one distinction required. Gladstone, to proceed further, wanted to translate the "blue-prowed ships" as the "bronze-prowed shops"—which would have rendered them green-prowed in a hurry—and he changed the frieze of *kyanos* in King Alkinoos' hall into a frieze of bronze. (The latter is not impossible, since the walls of the hall were covered with sheet copper.) All of this was not taken as a proof for the legend that Homer was blind, but just as a proof that he could not see blue, which in turn was taken as an indication that none of the ancient Greeks could. But those people who saw only the red end of the spectrum lacked a word for orange!

During the decades following the first publications a number of interesting discoveries were made. Actual discoveries, not only the literary variety. The Babylonian Ishtar Gate was excavated, with towering walls built of glazed bricks, bricks of the brightest cornflower blue I have ever seen. Egyptian paintings were discovered; no color is missing in them. These discoveries took care of Lazarus Geiger's assertions or what was left of them. And on Greek soil the ruins of a banquet hall were found, with a frieze of blue *kyanos* just as Homer had described it in his epic.

*The term really means *Weizenbier*—wheat beer.

In addition to that Pliny's story about the development of painting had found a perfectly good explanation—it just meant that the ancient painters had had trouble obtaining a blue dye or pigment. Even much later, blue was very expensive; one of the great masters—I believe Albrecht Dürer—is known to have had trouble with his wife every time he showed too large a blue area on his canvas. His wife appears to have been of the thrifty variety.

In short the color words of any language seem to have followed the accomplishments of the artisans—but they had great trouble in obtaining blue dyes or pigments. But vision had nothing to do with these struggles.

The greater part of all this was known in 1900. But the "ancient curse" was not dead, it was only hidden away in books. In 1904 a German scholar wrote a book dealing with known cases of color-blindness as applied to the Homeric poems. As for Homer he just repeated Gladstone's and Magnus' assertions—not knowing Allen's work at all and only one of Krause's numerous articles—and arrived at the remarkable conclusion that blue blindness must have been a racial characteristic of the ancient Greeks. As "proof" he printed a color reproduction of an ancient painting of Zeus—not a great masterpiece—with a few green dabs on the wooden footstool of the god. A blue-blind man, his argument ran, would have taken that kind of green as a darker shade of wood color. But he

had to admit that many people to whom he showed the color print failed to see the "mistake"—it took me quite some time to find it—or to realize what it indicated. He disclaimed the possibility that the paint may have undergone chemical changes in the meantime, "although no chemical analysis was made." What would he "prove" from a small collection of modern paintings?

Since then the assertion of Greek blue blindness has been resurrected from time to time, usually by amateur scholars. How widespread the misconception still is even now is indicated by an excellent essay, published in December, 1927, in the series "Smith College Classical Studies." The title of the essay is "Color in Homer and in Ancient Art" and its author is Florence Elizabeth Wallace. The author, who arrived at the correct result that the "blue blindness" consists of linguistic peculiarities only, admitted that she "undertook the study of the use of color in Homer with the conviction that its peculiarities were caused by shortcomings in the vision of the Homeric Greeks." In other words she had at first accepted the story which, somehow, had reached her, until "further studies failed to reveal grounds for this idea."

But so far this realization seems to be restricted to circles of Greek scholars—when you read a newspaper report on a battle in which Greek soldiers took place the reporter will not fail to tell you that they "now" see the deep blue color of the Mediterranean.

THE END.

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BRASS TACKS

Agreed: "Defense Line" did have that flaw in depicting the System two-dimensionally. But I felt the concept of asteroid hill-billies interesting enough to make the flaw forgivable.

Dear Mr. Campbell:

Because Salant does such a neat job on Dr. Smith in the February Brass Tacks, I will considerably reduce the extended comment I had in mind on "Second Stage Lensman." For many years Dr. Smith has been a fresh and stimulating writer. His stories have been enormously popular, not merely for the sake of his individual style, but because the readers knew they could always count on Dr. Smith for original and entertaining ideas, and were never disappointed. *Ave atque vale.* Now, for the first time, Dr. Smith has written, and you have published, a story the whole of which fails to contain a single new idea. To see the imagination which has given us the successive Skylarks, including Fenachrone, Osnome, Dasor, Norlamin, the Intellectuals, the Chlorans, the only really solid attempt at depicting fourth dimensional translation, and the most famed villain of all sf.; the Triplanetary story introducing Gray Roger, Nevia, and the Nevians; "Spacehounds," with the ice-people, hexans, and Vorkuls; and the earlier Patrol tales with Lens, "Helmuth speaking for Boskone," Worsel, Tregonsee, et cetera—to see such an imagination reduced to impotency is a painful spectacle indeed. I deeply respect Dr. Smith for his past accomplishments, but if you or he can point to one single new idea or conception appearing in "Second Stage Lensman" to justify its publication, you will have spotted something two careful readings have not revealed to me. Enough of this painful and distressing topic.

Unquestionably the best story in the February

issue is "There Shall Be Darkness." This is a story which simply invites comparison with S. V. Benét's "Last of the Legions," which concerns the departure of the Valeria Victrix from Britain when Rome was falling before the barbarian onslaughts. And yet, though Benét is concededly one of the best modern masters of the short story, Miss Moore does not emerge from the comparison entirely without honors. The especial merits of her story, it seems to me, lie in the depiction of the character and psychology of the Venusian people, and the skill with which she is able to make Quanna a believable and human character, rather than merely "de skoit wot de bigshot bumps de rat off for." The fact that the action scenes are by no means as clearly or as well written as the body of the narrative is a defect, but not one which spoils the story. On the whole, Miss Moore is to be complimented and asked to reappear in Astounding's pages as soon as conveniently may be.

The vote for second place goes to "Sorcerer of Rhiannon." An amiable, unimportant tale, it offers adequate amused diversion. Third, "Medusa," more for the forcefulness of the plot than any other reason. Up to the actual encounter with the "mad planet," the story gave promise of being exceptionally good, but I'm sorry Sturgeon couldn't have thought of a better ending. He is, too, probably, and I don't know how else I could have done it myself. But that's just the point—unless an author knows more, or is cleverer, than you, it is boring to read his stuff.

There should now ensue a vast and yawning gap between the third and fourth. While "Second Stage Lensmen" can be rated fourth, it is only because the competition is slight. This installment was dust and ashes to me—the final bitter blow was having Boskone turn out to be a mad Arisian and

the Arisians no more than those "brains" Harry Bates wrote so incisively about in "Alas All Thinking," many, many years ago. "Starting Point" may have the vote for fifth, if only because I've now had quite enough of the Kilkenny Cats, and hope von Rachen feels the same way. The only original thought appearing in this series was the conception of bluffing an enemy with fake rocket trails suggesting presence of a powerful hostile fleet out in space. That was good. But this current installment is vacuous—full of violent action, it is still tame as Billy's pet white rat, for the violence does not come alive and swirl the reader into the excitement written about. It remains deadeningly familiar, uninspired, flat as stale tea.

This leaves us with only De Camp's article awaiting word of its fate. The first installment greatly interested me; the second I found tedious. I am interested in biology, but I am majoring in zoölogy, not botany, or possibly this comment would be exactly reversed!

Considered as a whole, the issue leaves me with a more cheerful spirit than was imparted by the January issue, because you printed no story in January I am likely to remember a year from now, while "There Shall Be Darkness" will, if I mistake not, be so remembered.

As usual, I disagree with the Analytical Laboratory results for the December issues. I would give "Homo Saps" top billing, even though the story was not as effectively written as it might have been. Why "Defense Line" was either written or accepted I did not understand. Space is three dimensional, while the solar system lies approximately in a plane. There is no need to navigate through the asteroid belt, regardless of the direction of approach from outer space. Only the scattering of suggestions regarding human survival among the asteroids meant anything in the story.

A last word on the cover—I do not like it; it neither makes a harmonious and pleasing composition—it is off-balance—nor effectively depicts an "action scene." Rogers might have chosen more successfully from the episodes in the story—I don't even recognize this scene at all.

Having said his say, he saith no more.—Louis Russell Chauvenet, Box 1431, University Station, Charlottesville, Virginia.

Information, please.

Dear Editor:

This is somewhat in the nature of a long-distance announcement, but I want to get this plea for information off my chest as easily as possible. I am planning another book which is to deal with

the history of science, as reflected in contemporary thought and contemporary literature.

While I have all the material I need—and more—for the time prior to 1800, I have the feeling that my knowledge of English and American literature for the period after that date might be incomplete. I am sure that I know all the French and German novels of that period, but it is likely that I may have missed a number of American and British books.

For this reason I wish to ask those readers of science-fiction who are willing to assist me to send me lists of *book titles*—not books—of science and science-fiction stories known to them.—Willy Ley, 304 West Twenty-fourth Street, New York City.

The Kilkenny cats never did hold together; at the time of the revolution each group held to a larger group.

Dear Editor Campbell:

I haven't yet put my oar in in regard to Astounding and *Unknown* going large size. It may be a smart business move—but personally I am not in favor of it as it is not convenient, and difficult to file along with the small-size magazines. However, if going large size will increase the sales of both magazines, then I am certainly in favor of it. I wonder, though, if you can get sufficient good material for the large size, especially with some of the best writers being inducted into the military forces right now.

Personally, I don't like to read other people's analyses of stories in detail, but I realize that that may be of some benefit to you, so I am going to do so for the February Astounding.

The best story in the issue was Moore's "There Shall Be Darkness." The story is well written, shows character development, the plot is well worked out and reminded me somewhat of the conflict between the Normans and the Saxons in England in the Eleventh and Twelfth centuries. Moore hit an A rating here.

The second best story was a surprise to me, Brackett's, "The Sorcerer of Rhiannon," and I imagine that I will be the only person to rate it second. I am not sure why, unless the conflicts of personalities appeals to me.

The third was, of course, Smith's "Second Stage Lensmen," not that it is outstanding, but the writing is good. I am glad to see the last of Boskone and hope, the last of Kinnison. Frankly I have not liked this story as it was a continuation of the last one. If Smith wanted to become even better known than he is, let him write about a few villains. His heroes are rather sickish at times. Frankly, the most interesting character that Smith ever created was Roger in Triplanetary. A long

book about him would be more interesting than anything he has written to date. The only thing that saved "Second Stage Lensmen" was the denouement—that Boskone was, what one should have thought of before, an Arisian. That was the only logical—I must admit I had not thought of it—ending to the menace of Boskone, a typical Nazi form of culture. I had assumed that it had grown through a cultural wave rather than from one center infecting a whole culture as the Arisian had done.

Jones' "Starting Point" is next. It is clever and very true of its analysis in regard to the development of any phase of civilization—not only transportation.

Sturgeon's "Medusa" was O. K. but not outstanding. I have "me doubts" about any organism reaching such a size. Until we have some evidence that life can exist in other forms than some type of protoplasm we cannot postulate such a gigantic being—planetary size!

I am rather tired of von Rachen's Kilkenney Cats. They are the most unco-operative group that I have read about in a long time. I fear that even the curious descendants of man and his ancestors could not be so stupid as depicted. Perhaps I am wrong, but such a lack of basic intelligence and co-operativeness in a group that *could* hold together to pull off a revolution is not logical.

De Camp's article was O. K. It was written about a year ago, wasn't it? Certain parts dated it.

I did not like the interior illustrations for Moore's story. I seldom notice too closely or comment on illustrations, but these were so poor that even I had to notice them. The cover was fair. The general make-up of the magazine was good and the editorial very good. A majority of your editorials are quite good and accurate. I usually read them first, so don't disappoint me some time. —Thomas S. Gardner, 344 Commonwealth Avenue, Boston, Massachusetts.

It's a promise!

Dear Campbell:

If it will make Mr. Northrup any happier, I have sworn off, for duration at least, stories wherein Invaders conquer Earth and utterly crush all resistance, only to be in their turn destroyed by noble young scientist who discovers that they cannot abide being called "You platypus!" but swell up and burst with frustrated fury whenever so insulted. I agree with Mr. Northrup that it is time we prepared ourselves mentally for the prospect of having to do things the hard way, the easy ones having, during the last two decades, failed egregiously.—L. Sprague de Camp, 706 Riverside Drive, New York City.

The seafarers take six out of ten; Sturgeon is in the merchant marine. His specialty, incidentally, is—East coast tankers!

Dear Mr. Campbell:

It is approximately a year since I last wrote to Brass Tacks. In my case, silence has meant a satisfied customer.

I don't think any story in 1940 quite came up to "Slan!" or to three or four others. Also, there was a period in late fall and early winter when several stories dropped well below average for Astounding. But, in spite of all that, there were fewer below-average stories during the year than in 1940. Just for the record, here are my top ten for 1941:

1. "Masquerade."
2. "Universe."
3. "Nightfall."
4. "Common Sense."
5. "Methuselah's Children."
6. "And He Built a Crooked House."
7. "Microcosmic God."
8. "Time Wants a Skeleton."
9. "Not Final!"
10. "By His Bootstraps."

It is to be noted that those seafarers, Heinlen and MacDonald, capture five of the places between them, and Asimov is in there with two. Logically, "Eccentric Orbit" ought to be in there somewhere, since it outranked "Masquerade," my pick for No. 1 in the Analytical Laboratory for March. But I'm not especially logical, so I presume I'll have to leave it off; too bad.

1942 has started off with a bang. C. L. Moore's "There Shall Be Darkness" is not only the best story so far this year, but is superior to anything last year, and up to the best in 1941. Miss Moore has the rather marvelous faculty of being able to write a story about a woman, from the point of view of a woman, and make cynical males cheer long and loudly. She did the same sort of thing in "Fruit of Knowledge" in *Unknown*. First place in January went to Williamson's "Breakdown." Smith's latest Lensman story was a strong second during both months.

For March, Del Rey takes first, with "The Wings of the Night," a story not far behind "There Shall Be Darkness." I like the style, the feeling of hopeful idealism, and the reasonable treatment of an alien intellect. The rest of the issue is very fine. I liked "Goldfish Bowl," "Day After Tomorrow" and "The Embassy," in that order. No choice between the remaining three, which were O. K. I really expected "Recruiting Station" to place near the top of the list. It didn't, partly because of the excellence of the top four, and partly because it seemed somewhat too vague and too hard to follow. It seems to me that it should have been longer.

While I'm at it, I may as well add that I'm very well pleased with the new size. You're doing a fine job all around.—D. B. Thompson, 1903 Polk, Alexandria, Louisiana.

*Good, round lies will be accepted with pleasure.
Got any on hand yourself?*

Dear Friend:

Congratulations on another fine issue of "our" magazine! The stories continue to show a high standard of reader interest, and, of course, they are, basically, what determine the success of an issue.

I wish to concur with your comment on the first letter in Brass Tacks. I, too, for several months have noticed that change which has come of "growing up with science-fiction." We veteran fans have seen nearly the whole field and, perhaps, are sometimes prone to wish for the "good old days," but, as I say, I have noticed this tendency, and also my changing taste in fiction and have tried to compensate for it, especially in rating stories for the An. Lab. Sorry I can't thus compensate on the interior pictures, because Paul, Wesso and Finlay are today putting out material as good as anything ever seen. Of course nothing on the horizon can equal Rogers' best covers.

Now I must comment on Van Vogt's "Recruiting Station" in this issue. In my opinion some of his basic concepts are as nutty as a squirrel colony, but he can really produce *atmosphere*. It should have had a "Nova" rating—indeed its style was reminiscent of the first of the "Novae": "Who Goes There?" An. Lab. No. 1, rating 94. (When are you going to write the first Supernova?)

I look forward with anticipation to the STF Liars Colony, "Probability Zero." Perhaps we may recruit a champion for the Burlington Liars Club?

Especially liked the last sentence in your editorial.

The cover, this issue, didn't especially please me. However, that was a difficult story to get a concrete scene to reproduce. Mebbe something he et? Rating 80.

All stories, this issue, rate high:

2. "Day After Tomorrow." 90.

3. "Describe a Circle." 88.

4. A tie. "Wings of Night" and "Run-around." 87.

5. A tie. "Embassy," "Goldfish Bowl" and the article "Dispersion." 82.

Int-Pix, none really bad, Rogers' are good. Issue average on int-pix: 85. Rating, issue as a whole, about 89. (Van Vogt's screwy masterpiece pulled it up by its bootstraps.)—Lamont M. Jensen, Box 35, Cowley, Wyoming.

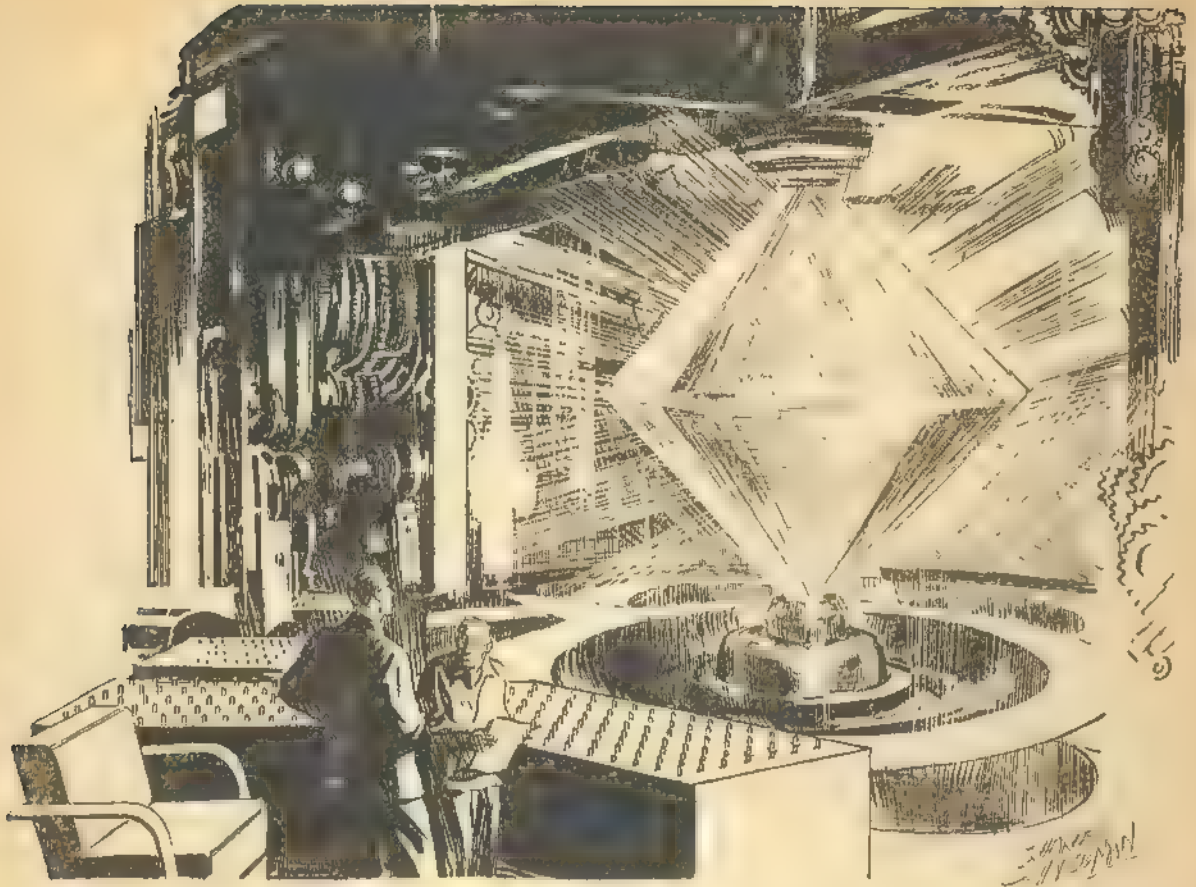


DYNAMITE AND LAUGHTER

● The echoes of the blasted bank vault had not even died away when, rising above the clangor of alarm bells, came a horrendous mirth that sent shivers of pure dread through those who heard it. It was—
The Shadow! THE NORTH-DALE MYSTERY is the stirring novel featured in the May 1st issue.

He lifted a finger—and there was murder! Did the Light meet his master when The Shadow came to grips with this powerful force for evil? You will thrill to DEATH'S BRIGHT FINGER in the May 15th number of

THE SHADOW



THE PUSH OF A FINGER

By Alfred Bester

● —or a careless word, for that matter, can wreck the entire universe. Think not? Well, if it happened this way—

Illustrated by Schneeman

I think it's about time someone got all those stories together and burned them. You know the kind I mean—X, the mad scientist, wants to change the world; Y, the ruthless dictator, wants to rule the world; Z, the alien planet, wants to destroy the world.

Let me tell you a different kind of story. It's about a whole world that wanted to rule one man—about a planet of people who hunted down a single indi-

vidual in an effort to change his life, yes, and even destroy him, if it had to be. It's a story about one man against the entire Earth, but with the positions reversed.

They've got a place in Manhattan City that isn't very well known. Not known, I mean, in the sense that the cell-nucleus wasn't known until scientists began to get the general idea. This was an undiscovered cell-nucleus, and still is, I imagine. It's the pivot of our Universe. Any-

thing that shakes the world comes out of it; and, strangely enough, any shake that does come out of it is intended to prevent worse upheavals.

Don't ask questions now, I'll explain as I go along.

The reason the average man doesn't know about this particular nucleus is that he'd probably go off his nut if he did. Our officials make pretty sure it's kept secret, and although some nosybodies would scream to high

heaven if they found out something was being kept from the public, anyone with sense will admit it's for the best.

It's a square white building about ten stories high and it looks like an abandoned hospital. Around nine o'clock in the morning you can see a couple of dozen ordinary looking citizens arriving, and at the end of the work-day some of them leave. But there's a considerable number that stay overtime and work until dawn or until the next couple of dawns. They're cautious about keeping windows covered so that high-minded citizens won't see the light and run to the controller's office yawping about overtime and breaking down Stability. Also they happen to have permission.

Yeah, it's real big-time stuff. These fellas are so important, and their work is so important they've got permission to break the one unbreakable law. They can work overtime. In fact as far as they're concerned they can do any damned thing they please, Stability or no Stability—because it so happens they're the babies that maintain Stability. How? Take it easy. We've got plenty of time—and I'll tell you.

It's called the Prog Building and it's one of the regular newspaper beats, just like the police courts used to be a couple of hundred years ago. Every paper sends a reporter down there at three o'clock. The reporters hang around and bull for a while and then some brass hat interviews them and talks policy and economics and about how the world is doing and how it's going to do. Usually it's dull stuff but every once in a while something really big comes out, like the time they decided to drain the Mediterranean. They—

What?

You never heard of that? Say, who is this guy anyway? Are you kidding? From the Moon, hey, all your life? Never been to the home planet? Never

heard about what goes on? A real cosmic hick. Baby, you can roll me in a rug. I thought your kind died out before I was born. O. K., you go ahead and ask questions whenever you want. Maybe I'd better apologize now for the slang. It's part and parcel of the newspaper game. Maybe you won't be able to understand me sometimes, but I've got a heart of gold.

Anyway—I had the regular three o'clock beat at the Prog Building and this particular day I got there a little early. Seems the *Trib* had a new reporter on the beat, guy by the name of Halley Hogan, whom I'd never met. I wanted to get together with him and talk policy. For the benefit of the hermit from the Moon I'll explain that no two newspapers in any city are permitted to share the same viewpoint or opinion.

I thought all you boys knew that. Well, sure—I'm not kidding. Look. Stability is the watchword of civilization. The world must be Stable, right? Well, Stability doesn't mean stasis. Stability is reached through an equipoise of opposing forces that balance each other. Newspapers are supposed to balance the forces of public opinion so they have to represent as many different points of view as possible. We reporters always got together before a story, or after, and made sure none of us would agree on our attitudes. You know—some would say it was a terrible thing and some would say it was a wonderful thing and some would say it didn't mean a thing and so on. I was with the *Times* and our natural competitor and opposition was the *Trib*.

The newspaper room in the Prog Building is right next to the main offices, just off the foyer. It's a big place with low-beamed ceiling and walls done in synthetic wood panels. There was a round table in the center surrounded by hardwood chairs,

but we stood the chairs along the wall and dragged up the big deep leather ones. We all would sit with our heels on the table and every chair had a groove on the table in front of it. There was an unwritten law that no shop could be talked until every groove was filled with a pair of heels. That's a newspaper man's idea of a pun.

I was surprised to find almost everybody was in. I slipped into my place and upped with my feet and then took a look around. Every sandal showed except the pair that should have been opposite me, so I settled back and shut my eyes. That was where the *Trib* man should have been parked, and I certainly couldn't talk without my opposition being there to contradict me.

The *Post* said: "What makes, Carmichael?"

I said: "Ho-hum—"

The *Post* said: "Don't sleep, baby, there's big things cookin'."

The *Ledger* said: "Shuddup, you know the rules—" He pointed to the vacant segment of table.

I said: "You mean the law of the jungle."

The *Record*, who happened to be the *Ledger's* opposition, said: "Old Bobbus left. He ain't coming in no more."

"How come?"

"Got a Stereo contract. Doing comedy scenarios."

I thought to myself: "Oi, that means another wrestling match." You see, whenever new opposition reporters get together, they're supposed to have a symbolic wrestling match. I said supposed. It always turns into a brawl with everybody else having the fun.

"Well, I said, "this new Hogan probably doesn't know the ropes yet. I guess I'll have to go into training. Anybody seen him? He look strong?" They all shook their heads and said they didn't know him. "O. K., then let's gab without him—"

The *Post* said: "Your correspondent has it that the pot's

a-boilin'. Every bigwig in town is in there." He jabbed his thumb toward the main offices.

We all gave the door a glance, only, like I always did, I tried to knock it in with a look. You see, although all of us came down to the Prog Building every day, none of us knew what was inside. Yeah, 's' fact. We just came and sat and listened to the big shots and went away. Like specters at the feast. It griped all of us, but me most of all.

I would dream about it at night. How there was a Hyperman living in the Prog Building, only he breathed chlorine and they kept him in tanks. Or that they had the mummies of all the great men of the past which they reanimated every afternoon to ask questions. Or it would be a cow in some dreams that was full of brains and they'd taught it to "moo" in code. There were times when I thought that if I didn't get upstairs into the Prog Building I'd burst from frustration.

So I said: "You think they're going to fill up the Mediterranean again?"

The *Ledger* laughed. He said: "I hear tell they're going to switch poles. North to south and vice versa."

The *Record* said: "You don't think they could?"

The *Ledger* said: "I wish they would—if it'd improve my bridge."

I said: "Can it, lads, and let's have the dope."

The *Journal* said: "Well, all the regulars are in—controller, vice con and deputy vice con. But there also happens to be among those present—the chief stabilizer."

"No!"

He nodded and the others nodded. "Fact. The C-S himself. Came up by pneumatic from Washington."

I said: "Oh, mamma! Five'll get you ten they're digging up Atlantis this time."

The *Record* shook his head. "The C-S didn't wear a digging look."

Just then the door to the main office shoved open and the C-S came thundering out. I'm not exaggerating. Old Groating had a face like Moses, beard and all, and when he frowned, which was now, you expected lightning to crackle from his eyes. He breezed past the table with just one glance from the blue quartz he's got for eyes, and all our legs came down with a crash. Then he shot out of the room so fast I could hear his rep tunic swish with quick whistling sounds.

After him came the controller, the vice con and the deputy vice con, all in single file. They were frowning, too, and moving so rapidly we had to jump to catch the deputy. We got him at the door and swung him around. He was short and fat and trouble didn't sit well on his pudgy face. It made him look slightly lopsided.

He said: "Not now, gentlemen."

"Just a minute, Mr. Klang," I said, "I don't think you're being fair to the press."

"I know it," the deputy said, "and I'm sorry, but I really cannot spare the time."

I said: "So we report to fifteen million readers that time can't be spared these days—"

He stared at me, only I'd been doing some staring myself and I knew I had to get him to agree to give us a release.

I said: "Have a heart. If anything's big enough to upset the stability of the chief stabilizer, we ought to get a look-in."

That worried him, and I knew it would. Fifteen million people would be more than slightly unnerved to read that the C-S had been in a dither.

"Listen," I said. "What goes on? What were you talking about upstairs?"

He said: "All right. Come down to my office with me. We'll prepare a release."

Only I didn't go out with the rest of them. Because, you see, while I'd been nudging the deputy I'd noticed that all of them had rushed out so fast they'd forgotten to close the office door. It was the first time I'd seen it unlocked and I knew I was going to go through it this time. That was why I'd wheedled that release out of the deputy. I was going to get upstairs into the Prog Building because everything played into my hands. First, the door being left open. Second, the man from the *Trib* not being there.

Why? Well, don't you see? The opposition papers always paired off. The *Ledger* and the *Record* walked together and the *Journal* and the *News* and so on. This way I was alone with no one to look for me and wonder what I was up to. I pushed around in the crowd a little as they followed the deputy out, and managed to be the last one in the room. I slipped back behind the door jamb, waited a second and then streaked across to the office door. I went through it like a shot and shut it behind me. When I had my back against it I took a breath and whispered: "Hyperman, here I come!"

I was standing in a small hall that had synthetic walls with those fluorescent paintings on them. It was pretty short, had no doors anywhere, and led toward the foot of a white staircase. The only way I could go was forward, so I went. With that door locked behind me I knew I would be slightly above suspicion—but only slightly, my friends, only slightly. Sooner or later someone was going to ask who I was.

The stairs were very pretty. I remember them because they were the first set I'd ever seen outside the Housing Museum. They had white even steps and they curved upward like a conic section. I ran my fingers along the smooth stone balustrade and

trudged up expecting anything from a cobra to one of Tex Richard's Fighting Robots to jump out at me. I was scared to death.

I came to a square railed landing and it was then I first sensed the vibrations. I'd thought it was my heart whopping against my ribs with that peculiar *bam-bam-bam* that takes your breath away and sets a solid lump of cold under your stomach. Then I realized this pulse came from the Prog Building itself. I trotted up the rest of the stairs on the double and came to the top. There was a sliding door there. I took hold of the knob and thought: "Oh, well, they can only stuff me and put me under glass"—so I shoved the door open.

Boys, this was it—that nucleus I told you about. I'll try to give you an idea of what it looked like because it was the most sensational thing I've ever seen—and I've seen plenty in my time. The room took up the entire width of the building and it was two stories high. I felt as though I'd walked into the middle of a clock. Space was literally filled with the shimmer and spin of cogs and cams that gleamed with the peculiar highlights you see on a droplet of water about to fall. All of those thousands of wheels spun in sockets of precious stone—just like a watch only bigger—and those dots of red and yellow and green and blue fire burned until they looked like a painting by that Frenchman from way back. Seurat was his name.

The walls were lined with banks of Computation Integrators—you could see the end-total curves where they were plotted on photoelectric plates. The setting dials for the Integrators were all at eye level and ran around the entire circumference of the room like a chain of enormous white-faced periods. That was about all of the stuff I could recognize. The rest just looked complicated and bewildering.

That *bam-bam-bam* I told you about came from the very center of the room. There was a crystal octahedron maybe ten feet high, nipped between vertical axes above and below. It was spinning slowly so that it looked jerky, and the vibration was the sound of the motors that turned it. From way high up there were shafts of light projected at it. The slow turning facets caught those beams and shattered them and sent them dancing through the room. Boys—it was really sensational.

I took a couple of steps in and then a little old coot in a white jacket hustled across the room, saw me, nodded, and went about his business. He hadn't taken more than another three steps when he stopped and came back to me. It was a real slow take.

He said: "I don't quite—" and then he broke off doubtfully. He had a withered, faraway look, as though he'd spent all his life trying to remember he was alive.

I said: "I'm Carmichael."

"Oh yes!" he began, brightening a little. Then his face got dubious again.

I played it real smart. I said: "I'm with Stabilizer Groatling."

"Secretary?"

"Yeah."

"You know, Mr. Mitchel, he said, "I can't help feeling that despite the gloomier aspects there are some very encouraging features. The Ultimate Datum System that we have devised should bring us down to surveys of the near future in a short time—" He gave me a quizzical glance like a dog begging for admiration on his hind legs.

I said: "Really?"

"It stands to reason. After all, once a technique has been devised for pushing analysis into the absolute future, a comparatively simple reversal should bring it as close as tomorrow."

I said: "It should at that"—and wondered what he was talking about. Now that some of the fright had worn off I was feel-

ing slightly disappointed. Here I expected to find the Hyperman who was handing down Sinai Decrees to our bosses and I walk into a multiplied clock.

He was rather pleased. He said: "You think so?"

"I think so."

"Will you mention that to Mr. Groatling? I feel it might encourage him—"

I got even smarter. I said: "To tell you the truth, sir, the Stabilizer sent me up for a short review. I'm new to the staff and unfortunately I was delayed in Washington."

He said: "Tut-tut, forgive me. Step this way, Mr. . . . Mr. Ahh—"

So I stepped his way and we went weaving through the clock-works to a desk at one side of the room. There were half a dozen chairs behind it and he seated me alongside himself. The flat top of the desk was banked with small tabs and push buttons so that it looked like a stenotype. He pressed one stud and the room darkened. He pressed another and the *bam-bam* quickened until it was a steady hum. The octahedron crystal whirled so quickly that it became a shadowy mist of light under the projectors.

"I suppose you know," the old coot said in rather self-conscious tones, "that this is the first time we've been able to push our definitive analysis to the ultimate future. We'd never have done it if Wiggons hadn't developed his self-checking data system."

I said: "Good for Wiggons," and I was more confused than ever. I tell you, boys, it felt like waking up from a dream you couldn't quite remember. You know that peculiar sensation of having everything at the edge of your mind so to speak and not being able to get hold of it—I had a thousand clues and inferences jangling around in my head and none of them would interlock. But I knew this was big stuff.

Shadows began to play across

the crystal. Off-focus images and flashes of color. The little old guy murmured to himself and his fingers plucked at the keyboard in a quick fugue of motion. Finally he said: "Ah!" and sat back to watch the crystal. So did I.

I was looking through a window in space, and beyond that window I saw a single bright star in the blackness. It was sharp and cold and so brilliant it hurt your eyes. Just beyond the window, in the foreground, I saw a spaceship. No, none of your cigar things or ovate spheroids or any of that. It was a spaceship that seemed to have been built mostly in afterthoughts. A great rambling affair with added wings and towers and helter-skelter ports. It looked like it'd been built just to hang there in one place.

The old coot said: "Watch close now, Mr. Muggins, things happen rather quickly at this tempo."

Quickly? They practically sprinted. There was a spurt of activity around the spaceship. Towers went up and came down; the buglike figures of people in space armor bustled about; a little cruiser, shaped like a fat needle, sped up to it, hung around a while and then sped away. There was a tense second of waiting and then the star blotted out. In another moment the spaceship was blotted out, too. The crystal was black.

My friend, the goofy professor, touched a couple of studs and we had a long view. There were clusters of stars spread before me, sharply, brilliantly in focus. As I watched, the upper side of the crystal began to blacken. In a few swift moments the stars were blacked out. Just like that. Blooey! It reminded me of school when we added carbon ink to a drop under the mike just to see how the amoebae would take it.

He punched the buttons like crazy and we had more and more

views of the Universe, and always that black cloud crept along, blotting everything out. After a while he couldn't find any more stars. There was nothing but blackness. It seemed to me that it wasn't more than an extra-special Stereo Show, but it chilled me nevertheless. I started thinking about those amoebae and feeling sorry for them.

The lights went on and I was back inside the clock again. He turned to me and said: "Well, what do you think?"

I said: "I think it's swell."

That seemed to disappoint him. He said: "No, no—I mean, what do you make of it? Do you agree with the others?"

"With Stabilizer Groating, you mean?"

He nodded.

I said: "You'll have to give me a little time to think it over. It's rather—startling."

"By all means," he said, escorting me to the door, "do think it over. Although"—he hesitated with his hand on the knob—"I shouldn't agree with your choice of the word 'startling.' After all, it's only what we expected all along. The Universe must come to an end one way or another."

Think? Boys, the massive brain practically fumed as I went back downstairs. I went out into the press room and I wondered what there was about a picture of a black cloud that could have upset the Stabilizer. I drifted out of the Prog Building and decided I'd better go down to the controller's office for another bluff, so I didn't drift any more. There was a pneumatic pick-up at the corner. I caught a capsule and clicked off the address on the dial. In three and a half minutes I was there.

As I turned the overhead dome back and started to step out of my capsule, I found myself surrounded by the rest of the newspaper crowd.

The *Ledger* said: "Where you been, my friendly, we needed your quick brain but bad."

I said: "I'm still looking for

Hogan. I can't cover a thing until I've seen him. What's this need for brains?"

"Not just any brains. Your brain."

I got out of the capsule and showed my empty pocket.

The *Ledger* said: "We're not soaping you for a loan—we needed interpolation."

"Aha?"

The *Record* said: "The dope means interpretation. We got one of those official releases again. All words and no sense."

"I mean interpolation," the *Ledger* said. "We got to have some one read implications into this barren chaff."

I said: "Brothers, you want exaggeration and I'm not going to be it this time. Too risky."

So I trotted up the ramp to the main floor and went to the deputy vice's office and then I thought: "I've got a big thing here, why bother with the small fry?" I did a turnabout and went straight to the controller's suite. I knew it would be tough to get in because the controller has live secretaries—no voders. He also happens to have four receptionists. Beautiful, but tough.

The first never saw me. I breezed right by and was in the second anteroom before she could say: "What is it, pa-lee-azz?" The second was warned by the bang of the door and grabbed hold of my arm as I tried to go through. I got past anyway, with two of them holding on, but number three added her lovely heft and I bogged down. By this time I was within earshot of the controller so I screamed: "Down with Stability!"

Sure I did. I also shouted: "Stability is all wrong! I'm for Chaos. Hurray for Chaos!" and a lot more like that. The receptionists were shocked to death and one of them put in a call for emergency and a couple of guys hanging around were all for boffing me. I kept on downing with



Stability and fighting toward the sanctum sanctorum et cetera and having a wonderful time because the three girls hanging on to me were strictly class and I happily suffocated on Exuberant No. 5. Finally the controller came out to see what made.

They let go of me and the controller said: "What's the meaning of this? . . . Oh, it's you."

I said: "Excuse it, please."

"Is this your idea of a joke, Carmichael?"

"No, sir, but it was the only quick way to get to you."

"Sorry, Carmichael, but it's a little too quick."

I said: "Wait a minute, sir."

"Sorry, I'm extremely busy."

He looked worried and impatient all at once.

I said: "You've got to give me a moment in private."

"Impossible. See my secretary." He turned toward his office.

"Please, sir—"

He waved his hand and started through the door. I took a jump and caught him by the elbow. He was sputtering furiously when I swung him around, but I got my arms around him and gave him a hug. When my mouth was against his ear I whispered: "I've been upstairs in the Prog Building. *I know!*"

He stared at me and his jaw dropped. After a couple of

vague gestures with his hands he motioned me in with a jerk of his head. I marched straight into the controller's office and almost fell down dead. The stabilizer was there. Yeah, old Jehovah Groating himself, standing before the window. All he needed was the stone tablets in his arms—or is it thunderbolts?

I felt very, very sober, my friends, and not very smart any more because the stabilizer is a sobering sight no matter how you kid about him. I nodded politely and waited for the controller to shut the door. I was wishing I could be on the other side of the door. Also I was wishing I'd never gone upstairs

into the Prog Building.

The controller said: "This is John Carmichael, Mr. Groating, a reporter for the *Times*."

We both said: "How-d'you-do?" only Groating said it out loud. I just moved my lips.

The controller said: "Now, Carmichael, what's this about the Prog Building?"

"I went upstairs, sir."

He said: "You'll have to speak a little louder."

I cleared my throat and said: "I went upstairs, sir."

"You what!"

"W-went upstairs."

This time lightning really did flash from the C-S's eyes.

I said: "If I've made trouble for anyone, I'm sorry. I've been wanting to get up there for years and . . . and when I got the chance today, I couldn't resist it—" Then I told them how I sneaked up and what I did.

The controller made a terrible fuss about the whole affair, and I knew—don't ask me how, I simply knew—that something drastic was going to be done about it unless I talked plenty fast. By this time, though, the clues in my head were beginning to fall into place. I turned directly to the C-S and I said: "Sir, Prog stands for Prognostication, doesn't it?"

There was silence. Finally Groating nodded slowly.

I said: "You've got some kind of fortuneteller up there. You go up every afternoon and get your fortune told. Then you come out and tell the press about it as though you all thought it up by yourselves. Right?"

The controller sputtered, but Groating nodded again.

I said: "This afternoon the end of the Universe was prognosticated."

Another silence. At last Groating sighed wearily. He shut the controller up with a wave of his hand and said: "It seems Mr. Carmichael does know enough to make things awkward all around."

The controller burst out: "It's no fault of mine. I always insisted on a thorough guard system. If we had guarded the—"

"Guards," Groating interrupted, "would only have upset existing Stability. They would have drawn attention and suspicion. We were forced to take the chance of a slip-up. Now that it's happened we must make the best of it."

I said: "Excuse me, sir. I wouldn't have come here just to boast. I could have kept quiet about it. What bothers me is what bothered you?"

Groating stared at me for a moment, then turned away and began to pace up and down the room. There was no anger in his attitude; if there had been, I wouldn't have been as scared as I was. It was a big room and he did a lot of pacing and I could see he was coldly analyzing the situation and deciding what was to be done with me. That frigid appraisal had me trembling.

I said: "I'll give you my word not to mention this again—if that'll do the trick."

He paid no attention—merely paced. My mind raced crazily through all the nasty things that could happen to me. Like solitary for life. Like one-way exploration. Like an obliterated memory track which meant I would have lost my twenty-eight years, not that they were worth much to anyone but me.

I got panicky and yelled: "You can't do anything to me. Remember Stability—" I began to quote the Credo as fast as I could remember: "The *status quo* must be maintained at all costs. Every member of society is an integral and essential factor of the *status quo*. A blow at the Stability of any individual is a blow aimed at the Stability of society. Stability that is maintained at the cost of so much as a single individual is tantamount to Chaos—"

"Thank you, Mr. Carmichael," the C-S interrupted. "I have already learned the Credo."

He went to the controller's desk and punched the teletype keys rapidly. After a few minutes of horrible waiting the answer came clicking back. Groating read the message, nodded and beckoned to me. I stepped up to him and, boys, I don't know how the legs kept from puddling on the floor.

Groating said: "Mr. Carmichael, it is my pleasure to appoint you confidential reporter to the Stability Board for the duration of this crisis."

I said: "Awk!"

Groating said: "We've maintained Stability, you see, and insured your silence. Society cannot endure change—but it can endure and welcome harmless additions. A new post has been created and you're it."

I said: "Th-thanks."

"Naturally, there will be an advance in credit for you. That is the price we pay, and gladly. You will attach yourself to me. All reports will be confidential. Should you break confidence, society will exact the usual penalty for official corruption. Shall I quote the Credo on that point?"

I said: "No, sir!" because I knew that one by heart. The usual penalty isn't pleasant. Groating had me beautifully hog-tied. I said: "What about the *Times*, sir?"

"Why," Groating said, "you will continue your usual duties whenever possible. You will submit the official releases as though you had no idea at all of what was really taking place. I'm sure I can spare you long enough each day to make an appearance at your office."

Suddenly he smiled at me and in that moment I felt better. I realized that he was far from being a Jehovian menace—in fact that he'd done all he could to help me out of the nasty spot my curiosity had got me into. I grinned back and on impulse shoved out my hand. He took it and gave it a shake. Everything was fine.

The C-S said: "Now that you're a fellow-official, Mr. Carmichael, I'll come to the point directly. The Prog Building, as you've guessed, is a Prognostication Center. With the aid of a complete data system and a rather complex series of Integrations we have been able to . . . to tell our fortunes, as you put it."

I said: "I was just shooting in the dark, sir. I really don't believe it."

Groating smiled. He said: "Nevertheless it exists. Prophecy is far from being a mystical function. It is a very logical science based on experimental factors. The prophecy of an eclipse to the exact second of time and precise degree of longitude strikes the layman with awe. The scientist knows it is the result of precise mathematical work with precise data."

"Sure," I began, "but—"

Groating held up his hand. "The future of the world line," he said, "is essentially the same problem magnified only by the difficulty of obtaining accurate data—and enough data. For example: Assuming an apple orchard, what are the chances of apples being stolen?"

I said: "I couldn't say. Depends, I suppose, on whether there are any kids living in the neighborhood."

"All right," Groating said, "that's additional data. Assuming the orchard and the small boys, what are the chances of stolen apples?"

"Pretty good."

"Add data. A locust plague is reported on the way."

"Not so good."

"More data. Agriculture reports a new efficient locust spray."

"Better."

"And still more data. In the past years the boys have stolen apples and been soundly punished. Now what are the chances?"

"Maybe a little less."

"Continue the experimental

factors with an analysis of the boys. They are headstrong and will ignore punishment. Add also the weather forecasts for the summer; add the location of the orchard and attitude of owner. Now sum up: Orchard plus boys plus thefts plus punishment plus character plus locusts plus spray plus—"

I said: "Good heavens!"

"You're overwhelmed by the detail work," Groating smiled, "but not by the lack of logic. It is possible to obtain all possible data on the orchard in question and integrate the factors into an accurate prophecy not only as to the theft, but as to the time and place of theft. Apply this example to our own Universe and you can understand the working of the Prognosis Building. We have eight floors of data analyzers. The sifted factors are fed into the Integrators and—presto, prophecy!"

I said: "Presto, my poor head!"

"You'll get used to it in time."

I said: "The pictures?"

Groating said: "The solution of a mathematical problem can take any one of a number of forms. For Prognosis we have naturally selected a picturization of the events themselves. Any major step in government that is contemplated is prepared in data form and fed into the Integrator. The effect of that step on the world line is observed. If it is beneficial, we take that step; if not, we abandon it and search for another—"

I said: "And the pictures I saw this afternoon?"

Groating sobered. He said: "Up until today, Mr. Carmichael, we have not been able to integrate closer to the present than a week in the future—or deeper into the future than a few hundred years. Wiggon's new data technique has enabled us to push to the end of our existence, and it is perilously close. You saw the obliteration of our Universe take place less than a thousand years from now. This is some-

thing we must prevent at once."

"Why all the excitement? Surely something will happen during the next ten centuries to avoid it."

"What will happen?" Groating shook his head. "I don't think you understand our problem. On the one hand you have the theory of our society. Stability. You yourself have quoted the Credo. A society which must maintain its Stability at the price of instability is Chaos. Keep that in mind. On the other hand we cannot wait while our existence progresses rapidly toward extinction. The closer it draws to that point, the more violent the change will have to be to alter it."

"Think of the progress of a snowball that starts at the top of a mountain and rolls down the slopes, growing in bulk until it smashes an entire house at the bottom. The mere push of a finger is sufficient to alter its future when it starts—a push of a finger will save a house. But if you wait until the snowball gathers momentum you will need violent efforts to throw the tons of snow off the course."

I said: "Those pictures I saw were the snowball hitting our house. You want to start pushing the finger now—"

Groating nodded. "Our problem now is to sift the billions of factors stored in the Prog Building and discover which of them is that tiny snowball."

The controller, who had been silent in a state of wild suppression all the while, suddenly spoke up. "I tell you it's impossible, Mr. Groating. How can you dig the one significant factor out of all those billions?"

Groating said: "It will have to be done."

"But there's an easier way," the controller cried. "I've been suggesting it all along. Let's attempt the trial and error method. We instigate a series of changes at once and see whether or not the future line is shifted. Sooner

or later we're bound to strike something."

"Impossible," Groating said. "You're suggesting the end of Stability. No civilization is worth saving if it must buy salvation at the price of its principles."

I said: "Sir, I'd like to make a suggestion."

They looked at me. The C-S nodded.

"It seems to me that you're both on the wrong track. You're searching for a factor from the present. You ought to start in the future."

"How's that?"

"It's like if I said old maids were responsible for more clover. You'd start investigating the old maids. You ought to start with the clover and work backwards."

"Just what are you trying to say, Mr. Carmichael?"

"I'm talking about a *posteriori* reasoning. Look, sir, a fella by the name of Darwin was trying to explain the balance of nature. He wanted to show the chain of cause and effect. He said in so many words that the number of old maids in a town governed the growth of clover, but if you want to find out how, you've got to work it out a *posteriori*; from effect to cause. Like this: Only bumblebees can fertilize clover. The more bumblebees, the more clover. Field mice attack bumblebee nests, so the more field mice, the less clover. Cats attack mice. The more cats, the more clover. Old maids keep cats. The more old maids . . . the more clover. Q. E. D."

"And now," Groating laughed, "construe."

"Seems to me you ought to start with the catastrophe and follow the chain of causation, link by link, back to the source. Why not use the Prognosticator backwards until you locate the moment when the snowball first started rolling?"

There was a very long silence while they thought it over. The controller looked slightly bewil-

dered and he kept muttering: Cats—clover—old maids— But I could see the C-S was really hit. He went to the window and stood looking out, as motionless as a statue. I remember staring past his square shoulder and watching the shadows of the helios flicking noiselessly across the façade of the Judiciary Building opposite us.

It was all so unreal—this frantic desperation over an event a thousand years in the future; but that's Stability. It's strictly the long view. Old Cyrus Brennerhaven of the *Morning Globe* had a sign over his desk that read: If you take care of the tomorrows, the todays will take care of themselves.

Finally Groating said: "Mr. Carmichael, I think we'd better go back to the Prog Building—"

Sure I felt proud. We left the office and went down the hall toward the pneumatics and I kept thinking: "I've given an idea to the Chief Stabilizer. He's taken a suggestion from me!" A couple of secretaries had rushed down the hall ahead of us when they saw us come out, and when we got to the tubes, three capsules were waiting for us. What's more, the C-S and the controller stood around and waited for me while I contacted my city editor and gave him the official release. The editor was a little sore about my disappearance, but I had a perfect alibi. I was still looking for Hogan. That, my friends, was emphatically that.

At the Prog Building we hustled through the main offices and back up the curved stairs. On the way the C-S said he didn't think we ought to tell Yarr, the little old coot I'd hoodwinked, the real truth. It would be just as well, he said, to let Yarr go on thinking I was a confidential secretary.

So we came again to that fantastic clockwork room with its myriad whirling cams and the revolving crystal and the hypnotic

bam-bam of the motors. Yarr met us at the door and escorted us to the viewing desk with his peculiar absent-minded subservience. The room was darkened again, and once more we watched the cloud of blackness seep across the face of the Universe. The sight chilled me more than ever, now that I knew what it meant.

Groating turned to me and said: "Well, Mr. Carmichael, any suggestions?"

I said: "The first thing we ought to find out is just what that spaceship has to do with the black cloud . . . don't you think so?"

"Why yes, I do." Groating turned to Yarr and said: "Give us a close-up of the spaceship and switch in sound. Give us the integration at normal speed."

Yarr said: "It would take a week to run the whole thing off. Any special moment you want, sir?"

I had a hunch. "Give us the moment when the auxiliary ship arrives."

Yarr turned back to his switchboard. We had a close-up of a great round port. The sound mechanism clicked on, running at high speed with a peculiar wheetledy-woodeldey-weedledy garble of shrill noises. Suddenly the cruiser shot into view. Yarr slowed everything down to normal speed.

The fat needle nosed into place, the ports clanged and hissed as the suction junction was made. Abruptly, the scene shifted and we were inside the lock between the two ships. Men in stained dungarees, stripped to the waist and sweating, were hauling heavy canvas-wrapped equipment into the mother ship. To one side two elderly guys were talking swiftly:

"You had difficulty?"

"More than ever. Thank God this is the last shipment."

"How about credits?"

"Exhausted."

"Do you mean that?"



"I do."

"I can't understand it. We had over two millions left."

"We lost all that through indirect purchases and—"

"And what?"

"Bribes, if you must know."

"Bribes?"

"My dear sir, you can't order cyclotrons without making people suspicious. If you so much as mention an atom today, you accuse yourself."

"Then we all stand accused here and now."

"I'm not denying that."

"What a terrible thing it is that the most precious part of our existence should be the most hated."

"You speak of—"

"The atom."

The speaker gazed before him meditatively, then sighed and turned into the shadowy depths of the spaceship.

I said: "All right, that's enough. Cut into the moment

just before the black-out occurs. Take it inside the ship."

The integrators quickened and the sound track began its shrill babble again. Quick scenes of the interior of the mother ship flickered across the crystal. A control chamber, roofed with a transparent dome passed repeatedly before us, with the darting figures of men snapping through it. At last the Integrator fixed on that chamber and stopped. The scene was frozen into a still-photograph—a tableau of half a dozen half-naked men poised over the controls, heads tilted back to look through the dome.

Yarr said: "It doesn't take long. Watch closely."

I said: "Shoot."

The scene came to life with a blurrp.

"—ready on the tension screens?"

"Ready, sir."

"Power checked?"

"Checked and ready, sir."

"Stand by, all. Time?"

"Two minutes to go."

"Good—" The graybeard in the center of the chamber paced with hands clasped behind him, very much like a captain on his bridge. Clearly through the sound mechanism came the thuds of his steps and the background hum of waiting mechanism.

The graybeard said: "Time?"

"One minute forty seconds."

"Gentlemen: In these brief moments I should like to thank you all for your splendid assistance. I speak not so much of your technical work, which speaks for itself, but of your willingness to exile yourselves and even incriminate yourselves along with me— Time?"

"One twenty-five."

"It is a sad thing that our work which is intended to grant the greatest boon imaginable to the Universe should have been driven into secrecy. Limitless

power is so vast a concept that even I cannot speculate on the future it will bring to our worlds. In a few minutes, after we have succeeded, all of us will be universal heroes. Now, before our work is done, I want all of you to know that to me you are already heroes— Time?"

"One ten."

"And now, a warning. When we have set up our spacial partition membrane and begun the osmotic transfer of energy from hyperspace to our own there may be effects which I have been unable to predict. Raw energy pervading our space may also pervade our nervous systems and engender various unforeseen conditions. Do not be alarmed. Keep well in mind the fact that the change cannot be anything but for the better— Time?"

"Fifty seconds."

"The advantages? Up to now mathematics and the sciences have merely been substitutes for what man should do for himself. So Fitz-John preached in his first lecture, and so we are about to prove. The logical evolution of energy mechanics is not toward magnification and complex engineering development, but toward simplification—toward the concentration of all those powers within man himself— Time?"

"Twenty seconds."

"Courage, my friends. This is the moment we have worked for these past ten years. Secretly. Criminally. So it has always been with those who have brought man his greatest gifts."

"Ten seconds."

"Stand by, all."

"Ready all, sir."

The seconds ticked off with agonizing slowness. At the moment of zero the workers were galvanized into quick action. It was impossible to follow their motions or understand them, but you could see by the smooth timing and interplay that they were beautifully rehearsed. There was tragedy in those efforts for us who already knew the outcome.

As quickly as they had begun,

the workers stopped and peered upward through the crystal dome. Far beyond them, crisp in the velvet blackness, that star gleamed, and as they watched, it winked out.

They started and exclaimed, pointing. The graybeard cried:

"It's impossible!"

"What is it, sir?"

"I—"

And in that moment blackness enveloped the scene.

I said: "Hold it—"

Yarr brought up the lights and the others turned to look at me. I thought for a while, idly watching the shimmering cams and cogs around me. Then I said: "It's a good start. The reason I imagine you gentlemen have been slightly bewildered up to now is that you're busy men with no time for foolishness. Now I'm not so busy and very foolish, so I read detective stories. This is going to be kind of backward detective story."

"All right," Groating said, "Go ahead."

"We've got a few clues. First, the Universe has ended through an attempt to pervade it with energy from hyperspace. Second, the attempt failed for a number of reasons which we can't discover yet. Third, the attempt was made in secrecy. Why?"

The controller said: "Why not? Scientists and all that—"

"I don't mean that kind of secrecy. These men were plainly outside the law, carrying on an illicit experiment. We must find out why energy experiments or atomic experiments were illegal. That will carry us back quite a few decades toward the present."

"But how?"

"Why, we trace the auxiliary cruiser, of course. If we can pick them up when they're purchasing supplies, we'll narrow our backward search considerably. Can you do it, Dr. Yarr?"

"It'll take time."

"Go ahead—we've got a thousand years."

It took exactly two days. In that time I learned a lot about the Prognosticator. They had it worked out beautifully. Seems the future is made up solely of probabilities. The Integrator could push down any one of these possible avenues, but with a wonderful check. The less probable the avenue of future was, the more off-focus it was. If a future event was only remotely possible, it was pictured as a blurred series of actions. On the other hand, the future that was almost positive in the light of present data, was sharply in focus.

When we went back to the Prog Building two days later, Yarr was almost alive in his excitement. He said: "I really think I've got just the thing you're looking for."

"What's that?"

"I've picked up an actual moment of bribery. It has additional data that should put us directly on the track."

We sat down behind the desk with Yarr at the controls. He had a slip of paper in his hand which he consulted with much muttering as he adjusted co-ordinates. Once more we saw the preliminary off-focus shadows, then the sound blooped on like a hundred Stereo records playing at once. The crystal sharpened abruptly into focus.

The scream and roar of a gigantic foundry blasted our ears. On both sides of the scene towered the steel girder columns of the foundry walls, stretching deep into the background like the grim pillars of a satanic cathedral. Overhead cranes carried enormous blocks of metal with a ponderous gait. Smoke—black, white and fitfully flared with crimson from the furnaces, whirled around the tiny figures.

Two men stood before a gigantic casting. One, a foundryman in soiled overalls, made quick measurements which he called off to the other carefully checking a blueprint. Over the roar

of the foundry the dialogue was curt and sharp:

"One hundred three point seven."

"Check."

"Short axis. Fifty-two point five."

"Check."

"Tangent on ovate diameter. Three degrees point oh five two."

"Check."

"What specifications for outer convolutions?"

"Y equals cosine X."

"Then that equation resolves to X equals minus one half Pi."

"Check."

The foundryman climbed down from the casting, folding his three-way gauge. He mopped his face with a bit of waste and eyed the engineer curiously as the latter carefully rolled up the blueprint and slid it into a tube of other rolled sheets. The foundryman said: "I think we did a nice job."

The engineer nodded.

"Only what in blazes do you want it for. Never saw a casting like that."

"I could explain, but you wouldn't understand. Too complicated."

The foundryman flushed. He said: "You theoretical guys are too damned snotty. Just because I know how to drop-forged doesn't mean I can't understand an equation."

"Mebbeso. Let it go at that. I'm ready to ship this casting out at once."

As the engineer turned to leave, rapping the rolled blueprints nervously against his calf, a great pig of iron that had been sailing up from the background swung dangerously toward his head. The foundryman cried out. He leaped forward, seized the engineer by the shoulder and sent him tumbling to the concrete floor. The blueprints went flying.

He pulled the engineer to his feet immediately and tried to straighten the dazed man who could only stare at the tons of iron that sailed serenely on. The

foundryman picked up the scattered sheets and started to sort them. Abruptly he stopped and examined one of the pages closely. He began to look through the others, but before he could go any further, the blueprints were snatched from his hands.

He said: "What's this casting for?"

The engineer rolled the sheets together with quick, intense motions. He said: "None of your blasted business."

"I think I know. That's one-quarter a cyclotron. You're getting the other parts made up in different foundries, aren't you?"

There was no answer.

"Maybe you've forgotten Stabilization Rule 93."

"I haven't forgotten. You're crazy."

"Want me to call for official inspection?"

The engineer took a breath, then shrugged. He said: "I suppose the only way to convince you is to show you the master drafts. Come on—"

They left the foundry and trudged across the broad concrete of a landing field to where the fat needle of the auxiliary ship lay. They mounted the ramp to the side port and entered the ship. Inside, the engineer called: "It's happened again, boys. Let's go!"

The port swung shut behind them. Spacemen drifted up from the surrounding corridors and rooms. They were rangy and tough-looking and the sub-nosed paralyzers glinted casually in their hands as though they'd been cleaning them and merely happened to bring them along. The foundryman looked around for a long time. At last he said: "So it's this way?"

"Yes, it's this way. Sorry."

"I'd like you to meet some of my friends, some day—"

"Perhaps we will."

"They'll have an easier time with you than you're gonna have with me!" He clenched fists and

poised himself to spring.

The engineer said: "Hey—wait a minute. Don't lose your head. You did me a good turn back there. I'd like to return the favor. I've got more credit than I know what to do with."

The foundryman gave him a perplexed glance. He relaxed and began to rub his chin dubiously.

He said: "Damn if this isn't a sociable ship. I feel friendlier already—"

The engineer grinned.

I called: "O. K., that's enough. Cut it," and the scene vanished.

"Well?" Yarr asked eagerly.

I said: "We're really in the groove now. Let's check back and locate the Stabilization debates on Rule 930." I turned to the C-S. "What's the latest rule number, sir?"

Groating said: "Seven fifteen."

The controller had already been figuring. He said: "Figuring the same law-production rate that would put Rule 930 about six hundred years from now. Is that right, Mr. Groating?"

The old man nodded and Yarr went back to his keyboard. I'm not going to bother you with what we all went through because a lot of it was very dull. For the benefit of the hermit from the Moon I'll just mention that we hung around the Stability Library until we located the year S. R. 930 was passed. Then we shifted to Stability headquarters and quick-timed through from January 1st until we picked up the debates on the rule.

The reasons for the rule were slightly bewildering on the one hand, and quite understandable on the other. It seems that in the one hundred and fifty years preceding, almost every Earth-wide university had been blown up in the course of an atomic-energy experiment. The blow-ups were bewildering—the rule understandable. I'd like to tell you about that debate because—well, because things happened that touched me.

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smooth foyer in the Administration Building at Washington. It had a marble floor like milky ice flecked with gold. One side was broken by a vast square window studded with a thousand round-bottle panes that refracted the afternoon sunlight into showers of warm color. In the background were two enormous doors of synthetic oak. Before those doors stood a couple in earnest conversation—a nice-looking boy with a portfolio under his arm, and a stunning girl. The kind with sleek-shingled head and one of those clean-cut faces that look fresh and wind-washed.

The controller said: "Why, that's the foyer to the Seminar Room. They haven't changed it at all in six hundred years."

Groating said: "Stability!" and chuckled.

Yarr said: "The debate is going on inside. I'll shift scene—"

"No—wait," I said. "Let's watch this for a while." I don't know why I wanted to—except that the girl made my pulse run a little faster and I felt like looking at her for a couple of years.

She was half crying. She said: "Then, if for no other reason—for my sake."

"For yours!" The boy looked harassed.

She nodded. "You'll sweep away his life work with a few words and a few sheets of paper."

"My own work, too."

"Oh, but won't you understand? You're young. I'm young. Youth loves to shatter the old idols. It feasts on the broken shards of destruction. It destroys the old ideas to make way for its own. But he's not young like us. He has only his past work to live on. If you shatter that, he'll have nothing left but a futile resentment. I'll be pent up with a broken old man who'll destroy me along with himself. Darling, I'm not saying you're wrong—I'm only asking you to wait a little."

She was crying openly now.

The boy took her by the arm and led her to the crusted window. She turned her face away from the light—away from him. The boy said: "He was my teacher. I worship him. What I'm doing now may seem like treachery, but it's only treachery to his old age. I'm keeping faith with what he was thirty years ago—with the man who would have done the same thing to his teacher."

She cried: "But are you keeping faith with me? You, who will have all the joy of destroying and none of the tedious sweeping away the pieces. What of my life and all the weary years to come when I must coddle him and soothe him and lead him through the madness of forgetting what you've done to him?"

"You'll spend your life with me. I break no faith with you, Barbara."

She laughed bitterly. "How easily you evade reality. I shall spend my life with you—and in that short sentence, *poof!*"—she flicked her hand—"you dismiss everything. Where will he live? Alone? With us? Where?"

"That can be arranged."

"You're so stubborn, so pig-headed in your smug, righteous truth-seeking, Steven—for the very last time—please. Wait until he's gone. A few years, that's all. Leave him in peace. Leave us in peace."

He shook his head and started toward the oaken doors. "A few years waiting to salvage the pride of an old man, a few more catastrophies, a few more thousand lives lost—it doesn't add up."

She sagged against the window, silhouetted before the riot of color, and watched him cross to the doors. All the tears seemed drained out of her. She was so limp I thought she would fall to the floor at any instant. And then, as I watched her, I saw her stiffen and I realized that another figure had entered the foyer and was rushing to-

ward the boy. It was an oldish man, bald and with an ageless face of carved ivory. He was tall and terribly thin. His eyes were little pits of embers.

He called: "Steven!"

The boy stopped and turned.

"Steven, I want to talk to you."

"It's no use, sir!"

"You're headstrong, Steven. You pit a few years' research against my work of a lifetime. Once I respected you. I thought you would carry on for me as I've carried on for the generations that came before me."

"I am, sir."

"You are not." The old man clutched at the boy's tunic and spoke intensely. "You betray all of us. You will cut short a line of research that promises the salvation of humanity. In five minutes you will wipe out five centuries of work. You owe it to those who slaved before us not to let their sweat go in vain."

The boy said: "I have a debt also to those who may die."

"You think too much of death, too little of life. What if a thousand more are killed—ten thousand—in the end it will be worth it."

"It will never be worth it. There will never be an end. The theory has always been wrong, faultily premised."

"You fool!" the old man cried. "You damned, blasted young fool. You can't go in there!"

"I'm going, sir. Let go."

"I won't let you go in."

The boy pulled his arm free and reached for the doorknob. The old man seized him again and yanked him off balance. The boy muttered angrily, set himself and thrust the old man back. There was a flailing blur of motion and a cry from the girl. She left the window, ran across the room and thrust herself between the two. And in that instant she screamed again and stepped back. The boy sagged gently to the floor, his mouth opened to an O of astonishment. He tried to speak and then relaxed. The girl

dropped to her knees alongside him and tried to get his head on her lap. Then she stopped.

That was all. No shot or anything. I caught a glimpse of a metallic barrel in the old man's hand as he hovered frantically over the dead boy. He cried: "I only meant to—I—" and kept on whimpering.

After a while the girl turned her head as though it weighed a ton, and looked up. Her face was suddenly frostbitten. In dull tones she said: "Go away, father."

The old man said: "I only—" His lips continued to twitch, but he made no sound.

The girl picked up the portfolio and got to her feet. Without glancing again at her father, she opened the doors, stepped in and closed them behind her with a soft click. The debating voices broke off at the sight of her. She walked to the head of the table, set the portfolio down, opened it and took out a sheaf of typescript. Then she looked at the amazed men who were seated around the table gaping at her.

She said: "I regret to inform the stabilizers that Mr. Steven Wilder has been unavoidably detained. As his fiancée and co-worker, however, I have been delegated to carry on his mission and present his evidence to the committee—" She paused and went rigid, fighting for control.

One of the stabilizers said: "Thank you. Will you give your evidence, Miss . . . Miss?"

"Barbara Leeds."

"Thank you, Miss Leeds. Will you continue?"

With the gray ashes of a voice she went on: "We are heartily in favor of S. R. 930 prohibiting any further experimentation in atomic energy dynamics. All such experiments have been based on—almost inspired by the FitzJohn axioms and mathematic. The catastrophic detonations which have resulted must invariably result since the basic premises are incorrect. We shall prove that the backbone of Fitz-

John's equations is entirely in error. I speak of

$$i = (b/a) \pi i e / \mu \dots$$

She glanced at the notes, hesitated for an instant, and then continued: "FitzJohn's errors are most easily pointed out if we consider the Leeds Derivations involving transfinite cardinals—"

The tragic voice droned on.

I said: "C-cut."

There was silence.

We sat there feeling bleak and cold, and for no reason at all, the icy sea-green opening bars of Debussy's "La Mer" ran through my head. I thought: "I'm proud to be a human—not because I think or I am, but because I can feel. Because humanity can reach out to us across centuries, from the past or future, from facts or imagination, and touch us—move us."

At last I said: "We're moving along real nice now."

No answer.

I tried again: "Evidently that secret experiment that destroyed existence was based on this FitzJohn's erroneous theory, eh?"

The C-S stirred and said: "What? Oh— Yes, Carmichael, quite right."

In low tones the controller said: "I wish it hadn't happened. He was a nice-looking youngster, that Wilder—promising."

I said: "In the name of heaven, sir, it's not going to happen if we pull ourselves together. If we can locate the very beginning and change it, he'll probably marry the girl and live happily ever after."

"Of course—" The controller was confused. "I hadn't realized."

I said: "We've got to hunt back a lot more and locate this FitzJohn. He seems to be the key man in this puzzle."

And how we searched. Boys, it was like working a four-dimensional jig saw, the fourth dimension in this case being

time. We located a hundred universities that maintained chairs and departments exclusively devoted to FitzJohn's mathematics and theories. We slipped back a hundred years toward the present and found only fifty and in those fifty were studying the men whose pupils were to fill the chairs a century later.

Another century back and there were only a dozen universities that followed the FitzJohn theories. They filled the scientific literature with trenchant, belligerent articles on FitzJohn, and fought gory battles with his opponents. How we went through the libraries. How many shoulders we looked over. How many pages of equations we snap-photographed from the whirling octahedron for future reference. And finally we worked our way back to Bowdoin College, where FitzJohn himself had taught, where he worked out his revolutionary theories and where he made his first converts. We were on the home stretch.

FitzJohn was a fascinating man. Medium height, medium color, medium build—his body had the rare trick of perfect balance. No matter what he was doing, standing, sitting, walking, he was always exquisitely poised. He was like the sculptor's idealization of the perfect man. FitzJohn never smiled. His face was cut and chiseled as though from a roughish sandstone; it had the noble dignity of an Egyptian carving. His voice was deep, unimpressive in quality, yet unforgettable for the queer, intense stresses it laid on his words. Altogether he was an enigmatic creature.

He was enigmatic for another reason, too, for although we traced his career at Bowdoin backward and forward for all its forty years, although we watched him teach the scores and scores of disciples who afterward went out into the scholastic world to take up the fight for him—we could never trace Fitz-

John back into his youth. It was impossible to pick him up at any point earlier than his first appearance on the physics staff of the college. It seemed as though he were deliberately concealing his identity.

Yarr raged with impotent fury. He said: "It's absolutely aggravating. Here we follow the chain back to less than a half century from today and we're blocked—" He picked up a small desk phone and called upstairs to the data floors. "Hullo, Cullen? Get me all available data on the name FitzJohn. FitzJOHN. What's the matter, you deaf? F-I-T-Z . . . That's right. Be quick about it."

I said: "Seems as if FitzJohn didn't want people to know where he came from."

"Well," Yarr said pettishly, "that's impossible. I'll trace him backward second by second, if I have to!"

I said: "That would take a little time, wouldn't it?"

"Yes."

"Maybe a couple of years?"

"What of it? You said we had a thousand."

"I didn't mean you to take me seriously, Dr. Yarr."

The small pneumatic at Yarr's desk whirred and clicked. Out popped a cartridge. Yarr opened it and withdrew a list of figures, and they were appalling. Something like two hundred thousand FitzJohns on the Earth alone. It would take a decade to check the entire series through the Integrator. Yarr threw the figures to the floor in disgust and swiveled around to face us.

"Well?" he asked.

I said: "Seems hopeless to check FitzJohn back second by second. At that rate we might just as well go through all the names on the list."

"What else is there to do?"

I said: "Look, the Prognosticator flirted twice with something interesting when we were conning FitzJohn's career. It was something mentioned all through the future, too."

"I don't recall—" the C-S began.

"It was a lecture, sir," I explained. "FitzJohn's first big lecture when he set out to refute criticism. I think we ought to pick that up and go through it with a fine comb. Something is bound to come out of it."

"Very well."

Images blurred across the spinning crystal as Yarr hunted for the scene. I caught fuzzy fragments of a demolished Manhattan City with giant crablike creatures mashing helpless humans, their scarlet chiton glittering. Then an even blurrier series of images. A city of a single stupendous building towering like Babel into the heavens; a catastrophic fire roaring along the Atlantic seaboard; then a sylvan civilization of odd, naked creatures flitting from one giant flower to another. But they were all so far off focus they made my eyes ache. The sound was even worse.

Groating leaned toward me and whispered: "Merely vague possibilities—"

I nodded and then riveted my attention to the crystal, for it held a clear scene. Before us lay an amphitheater. It was modeled on the ancient Greek form, a horseshoe of gleaming white-stone terraces descending to a small square white rostrum. Behind the rostrum and surrounding the uppermost tiers of seats was a simple colonnade. The lovely and yet noble dignity was impressive.

The controller said: "Hel-lo. I don't recognize this."

"Plans are in the architectural offices," Groating said. "It isn't due for construction for another thirty years. We intend placing it at the north end of Central Park—"

It was difficult to hear them. The room was filled with the bel-low and roar of shouting from the amphitheater. It was packed from pit to gallery with quick-

jerking figures. They climbed across the terraces; they fought up and down the broad aisles; they stood on their seats and waved. Most of all they opened their mouths into gaping black blots and shouted. The hoarse sound rolled like slow, thunderous waves, and there was a faint rhythm struggling to emerge from the chaos.

A figure appeared from behind the columns, walked calmly up to the platform and began arranging cards on the small table. It was FitzJohn, icy and self-possessed, statuesque in his white tunic. He stood alongside the table, carefully sorting his notes, utterly oblivious of the redoubled roar that went up at his appearance. Out of that turmoil came the accented beats of a doggerel rhyme:

Neon
Crypton
Ammoniated
FitzJohn
Neon
Crypton
Ammoniated
FitzJohn

When he was finished, FitzJohn straightened and, resting the fingertips of his right hand lightly on top of the table, he gazed out at the rioting—unsmiling, motionless. The pandemonium was reaching unprecedented heights. As the chanting continued, costumed figures appeared on the terrace tops and began fighting down the aisles toward the platform. There were men wearing metal-tubed frameworks representing geometric figures. Cubes, spheres, rhomboids and tesseracts. They hopped and danced outlandishly.

Two young boys began unreeling a long streamer from a drum concealed behind the colonnade. It was of white silk and an endless equation was printed on it that read:

$$e^{ia} = 1 + ia - a^2! + a^3! - a^4! \dots$$
and so on, yard after yard after yard. It didn't exactly make sense, but I understood it to be

some kind of cutting reference to FitzJohn's equations.

There were hundreds of others, some surprising and many obscure. Lithe contortionists, made up to represent Möbius Strips, grasped ankles with their hands and went rolling down the aisles. A dozen girls appeared from nowhere, clad only in black net representing giant Aleph-Nulls, and began an elaborate ballet. Great gas-filled balloons, shaped into weird topological manifolds were dragged in and bounced around.

It was utter insanity and utterly degrading to see how these mad college kids were turning FitzJohn's lecture into a Mardi Gras. They were college kids, of course, crazy youngsters who probably couldn't explain the binomial theorem, but nevertheless were giving their own form of expression to their teachers' antagonism to FitzJohn. I thought vaguely of the days centuries back when a thousand Harvard undergraduates did a very similar thing when Oscar Wilde came to lecture. Undergraduates whose entire reading probably consisted of the *Police Gazette*.

And all the while they danced and shouted and screamed, Fitz-John stood motionless, fingertips just touching the table, waiting for them to finish. You began with an admiration for his composure. Then suddenly you realized what a breathtaking performance was going on. You glued your eyes to the motionless figure and waited for it to move—and it never did.

What?

You don't think that was so terrific, eh? Well, one of you get up and try it. Stand alongside a table and rest your fingertips lightly on the top—not firmly enough to bear the weight of your

arm—but just enough to make contact. Maybe it sounds simple. Just go ahead and try it. I'll bet every credit I ever own no one of you can stand there without moving for sixty seconds. Any takers? I thought not. You begin to get the idea, eh?

They began to get the same idea in the amphitheater. At first the excitement died down out of shame. There's not much fun making a holy show of yourself if your audience doesn't react. They started it up again purely out of defiance, but it didn't last long. The chanting died away, the dancers stopped cavorting, and at last that entire audience of thousands stood silent, uneasily watching Fitz-John. He never moved a muscle.

After what seemed like hours of trying to outstare him, the kids suddenly gave in. Spatters of applause broke out across the terraces. The clapping was taken up and it rose to a thunder of beating palms. No one is as quick to appreciate a great performance as a youngster. These kids sat down in their seats and applauded like mad. FitzJohn never moved until the applause,

too, had died down, then he picked up his card and, without preamble—as though nothing at all had happened—he began his lecture.

"Ladies and gentlemen, I have been accused of creating my theory of energy-dynamics and my mathematics out of nothing—and my critics cry: 'From nothing comes nothing.' Let me remind you first that man does not create in the sense of inventing what never existed before. Man only discovers. The things we seem to invent, no matter how novel and revolutionary, we merely discover. They have been waiting for us all the time.

"Moreover, I was not the sole discoverer of this theory. No scientist is a lone adventurer, striking out into new fields for himself. The way is always led by those who precede us, and we who seem to discover all, actually do no more than add our bit to an accumulated knowledge.

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fifty years prior to this day—some ten years before I was born.

"For on the evening of February 9, 2909, in Central Park, on the very site of this amphitheater, my father, suddenly struck with an idea, mentioned an equation: $i = (b/a) \pi i e / \mu \dots$ "

was the inspiration for my own theory. So you can understand just how little I have contributed to the 'invention' of The Tension Energy-Dynamics Equations—"

FitzJohn glanced at the first card and went on: "Let us consider, now, the possible permutations on the factor $e/\mu \dots$ "

I yelled: "That's plenty. Cut!" and before the first word was out of my mouth the controller and the C-S were shouting, too. Yarr blanked out the crystal and brought up the lights. We were all on our feet, looking at each other excitedly. Yarr jumped up so fast his chair went over backward with a crash. We were in a fever because, boys, that day happened to be February 9, 2909, and we had just about two hours until evening.

The controller said: "Can we locate these FitzJohns?"

"In two hours? Don't be silly. We don't even know if they're named FitzJohn today."

"Why not?"

"They may have changed their name—it's getting to be a fad nowadays. The son may have changed his name as a part of that cover-up of his past. Heaven only knows why not—"

"But we've got to split them up—whoever they are."

The C-S said: "Take hold of yourself. How are we going to separate eleven million married people? Didn't you ever hear of Stability?"

"Can't we publish a warning and order everybody out of the park?"

"And let everybody know about the Prog Building?" I said. "You keep forgetting Stability."

"Stability be damned! We can't let them have that conversation—and if they do anyway, we can't let them have that boy!"

Groating was really angry. He said: "You'd better go home and read through the Credo. Even if it meant the salvation of the Universe I would not break up a marriage—nor would I harm the boy."

"Then what do we do?"

"Have patience. We'll think of something."

I said: "Excuse me, sir—I've got an idea."

"Forget ideas," the controller yelled, "we need action."

"This is action."

The C-S said: "Go ahead, Carmichael."

"Well, obviously the important thing is to keep all married couples out of the north sector of Central Park tonight. Suppose we get a special detail of police together at once. Then we beat through the park and get everyone out. We can quarantine it—set up a close cordon around the park and guard it all night."

The controller yelled: "It may be one of the policemen."

"O. K., then we pick the unmarried ones. Furthermore, we give strict orders that all women are to stay away."

The C-S said: "It might work—it'll have to work. We can't let that conversation take place."

I said: "Excuse me, sir, do you happen to be married?"

He grinned: "My wife's in Washington. I'll tell her to stay there."

"And the controller, sir?"

The controller said: "She'll stay home. What about yourself?"

"Me? Strictly bachelor."

Groating laughed. "Unfortunate, but excellent for tonight. Come, let's hurry."

We took the pneumatic to headquarters and let me tell you, stuff began to fly, but high! Before we were there ten minutes, three companies were reported ready for duty. It seemed to

satisfy the controller, but it didn't satisfy me. I said: "Three's not enough. Make it five."

"Five hundred men? You're mad."

I said: "I wish it could be five thousand. Look, we've knocked our brains out digging through a thousand years for this clue. Now that we've got it I don't want us to muff the chance."

The C-S said: "Make it five."

"But I don't think we've got that many unmarried men in the service."

"Then get all you can. Get enough so they can stand close together in the cordon—close enough so no one can wander through. Look—this isn't a case of us hunting down a crook who knows we're after him. We're trying to pick up a couple who are perfectly innocent—who may wander through the cordon. We're trying to prevent an accident, not a crime."

They got four hundred and ten all told. The whole little regiment was mustered before headquarters and the C-S made a beautifully concocted speech about a criminal and a crime that had to be prevented and hoopsgadoopus, I forget most of it. Naturally we couldn't let them know about the Prog Building any more than we could the citizens—and I suppose you understand why the secret had to be kept.

You don't, eh? Well, for the benefit of the hermit from the Moon I'll explain that, aside from the important matter of Stability, there's the very human fact that the Prog would be besieged by a million people a day looking for fortunetelling and hot tips on the races. Most important of all, there's the question of death. You can't let a man know when and how he's going to die. You just can't.

There wasn't any sense keeping the news from the papers because everyone around Central Park was going to know some-

thing was up. While the C-S was giving instructions, I slipped into a booth and asked for multi-dial. When most of the reporters' faces were on segments of the screen, I said: "Greetings, friendlies!"

They all yelled indignantly because I'd been out of sight for three days.

I said: "No more ho-hum, lads. Carmichael sees all and tells all. Hot-foot it up to the north end of Central Park in an hour or so. Big stuff!"

The *Journal* said: "Take you three days to find that out?"

"Yep."

The *Post* said: "Can it, Carmichael. The last time you sent us north, the south end of the Battery collapsed."

"This is no gag. I'm giving it to you straight."

"Yeah?" The *Post* was belligerent. "I say Gowan!"

"Gowan yourself," the *Ledger* said. "This side of the opposition is credible."

"You mean gullible."

I said: "The word this time is sensational. Four hundred police on the march. Tramp-tramp-tramp—the beat of the drum—boots—et cetera. Better get moving if you want to tag along."

The *News* gave me a nasty smile and said: "Brother, for your sake it better be good—because I'm preparing a little sensation of my own to hand over."

I said: "Make it a quick double cross, Newsy. I'm in a hurry," and I clicked off. It's funny how sometimes you can't get along right with wrong people.

You know how fast night comes on in February. The blackness gathers in the sky like a bunched cape. Then someone lets it drop and it sinks down over you with swiftly spreading black folds. Those dusky folds were just spreading out toward the corners of the sky when we got to the park. The cops didn't even bother to park their helios. They vaulted out and left them

blocking the streets. In less than half a minute, two hundred were beating through the park in a long line, driving everyone out. The rest were forming the skeleton of the cordon.

It took an hour to make sure the park was clear. Somehow, if you tell a hundred citizens to do something, there will always be twenty who'll fight you—not because they really object to doing what they're told, but just out of principle or curiosity or cantankerousness.

The all-clear came at six o'clock, and it was just in time because it was pitch dark. The controller, the C-S and myself stood before the high iron gates that open onto the path leading into the rock gardens. Where we stood we could see the jet masses of foliage standing crisp and still in the chill night. To either side of us stretched the long, wavering lines of police glow lamps. We could see the ring of bright dots drawn around the entire north end of the park like a necklace of glowing pearls.

The silence and the chill waiting was agonizing. Suddenly I said: "Excuse me, sir, but did you tell the police captain to O. K. the reporters?"

The C-S said: "I did, Carmichael—" and that was all. It wasn't so good because I'd hoped we'd have a little talk to ease the tension.

Again there was nothing but the cold night and the waiting. The stars overhead were like bits of radium and so beautiful you wished they were candy so you could eat them. I tried to imagine them slowly blotted out, and I couldn't. It's impossible to visualize the destruction of any lovely thing. Then I tried counting the police lamps around the park. I gave that up before I reached twenty.

At last I said: "Couldn't we go in and walk around a bit, sir?"

The C-S said: "I don't see why not—"

So we started through the gate, but we hadn't walked three

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steps into the park when there was a shout behind us and the sharp sounds of running feet.

But it was only old Yarr running up to us with a couple of cops following him. Yarr looked like a banshee with his coat flying and an enormous muffler streaming from his neck. He dressed real old-fashioned. He was all out of breath and just gasped while the C-S told the cops it was all right.

Yarr panted: "I... I—"

"Don't worry, Dr. Yarr, everything is safe so far."

Yarr took an enormous breath, held it for a moment and then let it out with a *woosh*. In natural tones he said: "I wanted to ask you if you'd hold on to the couple. I'd like to examine them for a check on the Prognosticator."

Gently, the C-S explained: "We're not trying to catch them, Dr. Yarr. We don't know who they are and we may never know. All we want to do is to prevent this conversation."

So we forgot about taking a walk through the gardens and there was more cold and more silence and more waiting. I clasped my hands together and I was so chilled and nervous it felt like I had ice water between the palms. A quick streak of red slanted up through the sky, the rocket discharges of the Lunar Transport, and ten seconds later I heard the *wham* of the take-off echoing from Governor's Island and the follow-up drone. Only that drone kept on sounding long after it should have died away and it was too thin—too small—

I looked up, startled, and there was a helio making lazy circles over the center of the rock gardens. Its silhouette showed clearly against the stars and I could see the bright squares of its cabin windows. Suddenly I realized there was a stretch of lawn in the center of the gardens where a helio could land—where a couple could get out to

stretch their legs and take an evening stroll.

I didn't want to act scared, so I just said: "I think we'd better go inside and get that helio out of there."

So we entered the gate and walked briskly toward the gardens, the two cops right at our heels. I managed to keep on walking for about ten steps and then I lost all control. I broke into a run and the others ran right behind me—the controller, the C-S, Yarr and the cops. We went pelting down the gravel path, circled a dry fountain and climbed a flight of steps three at a clip.

The helio was just landing when I got to the edge of the lawn. I yelled: "Keep off! Get out of here!" and started toward them across the frozen turf. My feet pounded, but not much louder than my heart. I guess the whole six of us must have sounded like a herd of buffalo. I was still fifty yards off when dark figures started climbing out of the cabin. I yelled: "Didn't you hear me? Get out of this park!"

And then the *Post* called: "That you, Carmichael? What goes on?"

Sure—it was the press.

So I stopped running and the others stopped and I turned to the C-S and said: "Sorry about the false alarm, sir. What shall I do with the reporters—have them fly out or can they stay? They think this is a crime hunt."

Groating was a little short of breath. He said: "Let them stay, Carmichael, they can help us look for Dr. Yarr. He seems to have lost himself somewhere in the woods."

I said: "Yes, sir," and walked up to the helio.

The cabin door was open and warm amber light spilled out into the blackness. All the boys were out by this time, getting into their coveralls and stamping around and making the usual newspaper chatter. As I came up, the *Post* said: "We brung

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your opposition along, Carmichael—Hogan of the *Trib*."

The *News* said: "Now's as good a time as any for the wrasslin' match, eh? You been in training, Carmichael?" His voice had a nasty snigger to it and I thought: "Oh-ho, this Hogan probably scales two twenty and he'll mop me up, but very good—to the great satisfaction, no doubt, of my confrere from the *News*."

Only when they shoved Hogan forward, he wasn't so big, so I thought: "At a time like this—let's get it over with fast." I took a little sprint through the dark and grabbed Hogan around the chest and dumped him to the ground.

I said: "O. K., opposition, that's—"

Suddenly I realized this Hogan'd been soft—soft but firm, if you get me. I looked down at her, full of astonishment and she looked up at me, full of indignation, and the rest of the crowd roared with laughter.

I said: "I'll be a pie-eyed emu!"

And then, my friends, six dozen catastrophes and cataclysms and volcanoes and hurricanes and everything else hit me. The C-S began shouting and then the controller and after a moment, the cops. Only by that time the four of them were on top of me and all over me, so to speak. Little Yarr came tearing up, screaming at Groating and Groating yelled back and Yarr tried to bash my head in with his little fists.

They yanked me to my feet and marched me off while the reporters and this Halley Hogan girl stared. I can't tell you much about what happened after that—the debating and the discussing and the interminable sound and fury, because most of the time I was busy being locked up. All I can tell you is that I was it. Me. I. I was the one

man we were trying to stop. I—innocent me. I was X, the mad scientist and Y, the ruthless dictator and Z, the alien planet—all rolled into one. I was the one guy the Earth was looking to stop.

Sure—because you see if you twist "I'll be a pie-eyed emu" enough, you get Fitz John's equation: $i = (b/a) \pi i e / \mu \dots$

I don't know how my future son is going to figure I was talking mathematics. I guess it'll just be another one of those incidents that turn into legend and get pretty well changed in the process. I mean the way an infant will say "goo" and by the time his pop gets finished telling about it it's become the Preamble to the Credo.

What?

No, I'm not married—yet. In fact, that's why I'm stationed up here editing a two-sheet weekly on this God-forsaken asteroid. Old Groating, he calls it protective promotion. Well, sure, it's a better job than reporting. The C-S said they wouldn't have broken up an existing marriage, but he was going to keep us apart until they can work something out on the Prognosticator.

No—I never saw her again after that time I dumped her on the turf, but, boys, I sure want to. I only got a quick look, but she reminded me of that Barbara Leeds girl, six hundred years from now. That lovely kind with shingled hair and a clean-cut face that looks fresh and wind-washed—

I keep thinking about her and I keep thinking how easy it would be to stow out of here on an Earth-bound freighter—change my name—get a different kind of job. To hell with Groating and to hell with Stability and to hell with a thousand years from now. I've got to see her again—soon.

I keep thinking how I've got to see her again.

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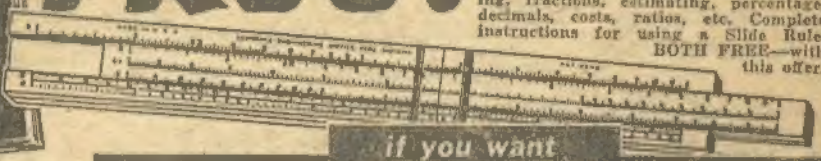
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